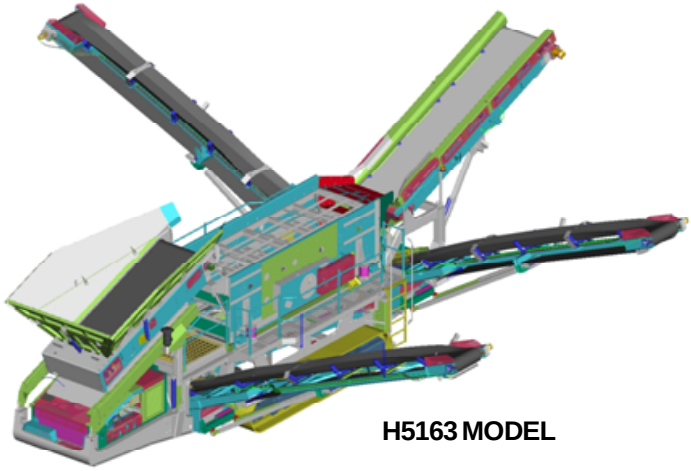
POWERSCREEN
A TEREX COMPANY

H5163 / H5163 R

H5163 R MODEL



H5163 MODEL

PRODUCT USER MANUAL
OPERATION
INSTALLATION
MAINTENANCE

WARNING WARNING WARNING WARNING WARNING

DO NOT ATTEMPT TO OPERATE THIS PRODUCT UNLESS YOU HAVE READ AND UNDERSTOOD THESE SAFETY INSTRUCTIONS. FAILURE TO DO SO WILL INCREASE THE RISK OF INJURY OR MAY RESULT IN DEATH!

SUBJECT TO CHANGE WITHOUT PRIOR NOTICE!
IMPORTANT SAFETY NOTICE!

Read this manual carefully to learn how to operate and service your machine correctly. Failure to do so could result in personal injury or equipment damage.

Consider this manual a permanent part of your machine.

Keep a copy of this manual at the operational site.

Follow all applicable safety regulations and recommendations in this manual as appropriate to your product and the situation/conditions prevailing at the time. Federal, State, National and Local laws and safety regulations must be complied with at all times to prevent possible danger to person(s) or property from accidents or harmful exposure.

See also the separate Operation and Maintenance Manual provided for the diesel engine if fitted to your product and in particular read and observe the instructions within the Safety Section of the engine manual

INFORMATION AND ADVICE

If you need any information or advice regarding your Powerscreen Product, contact:-

Northern Ireland:
Powerscreen International Distribution
200 Coalisland Rd
Dungannon
Co. Tyrone
BT71 4DT

Telephone:
Main Switchboard:
+ 44 (0) 2887 740701

Email:
aftersales@powerscreen.com

America
Terex Crushing & Screening Inc.
11001 Electron Drive
Louisville,
Kentucky 40299
United States of America

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Main Switchboard:
001 (502) 736 5200

POWERSCREEN
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CE

EC - Conformity

POWERSCREEN product machinery are in conformity of the EC Machinery Directive guideline 98/37/EEC and supplement thereto.

Noise Level - Hearing Harard
dB (A) Levels

POWERSCREEN product machinery are tested according to guideline 2000/14/EC.

This machine falls below these values.

CALIFORNIA
Proposition 65 Warning
WARNING: Battery Posts, terminals and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm.
WASH HANDS AFTER HANDLING.

CALIFORNIA
Proposition 65 Warning
WARNING: Diesel engine exhaust and some of it's constituents are known to the State of California to cause cancer, birth defects, and other
reproductive harm.

WARNING **The Operator must read and understand all the instructions in this manual before operating the machine.**

Owners, Users, and Operators: Powerscreen International Dis. Ltd. appreciates your choice of our product for your application. Our number one priority is user safety which is best achieved by our joint efforts. We feel that you can make a major contribution to safety if you as the equipment users and operators:

1. **Comply** with OSHA, Federal, State, and Local Regulations.

2. **Read, Understand, and Follow** the instructions in this and other manuals supplied with this product.

3. **Use Good, Safe Work Practices** in a common sense way.

4. **Only have trained operators** — directed by informed and knowledgeable supervision — operating this product.

If there is anything in this manual that is not clear or which you believe should be added, please send your comments to:

Help Desk (aftersales@powerscreen.com)

Main Switchboard: + 44 (0) 2887 740701

Fax: + 44 (0) 2887 74718649

Powerscreen International Distribution, Dungannon,Co. Tyrone BT71 4DR.

The safety alert symbol is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

Intended use
This product and its approved attachments are designed to perform screening. Use of this product in any other way is prohibited and contrary to its intended use.

The list of terms below, can be found throughout the following manual.

A-Frame
A frame that is mounted at each end of the drum (only on Trommels). Used to ensure drum is sealed correctly.

Anti Rock Stay
A strap which is used to stabilise the screen unit whilst in transport.

Antiluce Fastener
A type of fastener used to secure some doors.

Assemblies
Individual sections of the machine made up of different components parts.

Auxiliary Control Valve
A bank of hydraulic valves which carry out various movement functions throughout the machine.

Belt Scraper
A device fixed or flexible mounted across the width of a belt of a conveyor for removing adherent material.

Bogie
Undercarriage on chassis to which axles are bolted.

Centre Roller
A roller, which supports the loaded belt.

Collection Conveyor
A conveyor used to transfer the fines material from underneath the drum onto the incline conveyor.

Control Panel
A panel that is situated in the powerunit which is used to start the engine and view the various warning lights.

Controller
An electromechanical device or assembly of devices for starting, stopping, accelerating, or decelerating a drive, or serving, to govern in some predetermined manner the power delivered to the drive.

Conveyor
A horizontal, inclined, or vertical device for moving or transporting bulk material, packages, or objects, in a path determined by the design of the device, and having points of loading and discharge, fixed or selective.

Conveyor belt
A belt used to carry materials and transmit the power required to move the load being conveyed.

Conveyor, extendable
A conveyor that may be lenghtened or shortened to suit operating needs.

Conveyor, live roller
A series of rollers over which objects are moved by the application of power to all or some of the rollers. The power transmiting medium is usually belting or chain.

Conveyor, mobile
Conveyor, supported on a structure, and includes, but is not limited to, radial stackers, winged stackers, reclaiming conveyers, and shipholders. These conveyors normally handle bulk material.

Conveyor, portable
A transportable conveyor which is not self-propelled, usually having supports that provide mobility.

Conveyor, screw
A conveyor screw revolving in a suitably shaped stationary trough or casing fitted hangers, trough ends, and other auxiliary accessories.

Control Valve
A hydraulic valve, which carries out a movement function on the machine.

Depressurised
To release the pressure from a vessel i.e. a tyre, hydraulic system.

Discharge Area
The area where material is dumped from the machine.

Dolly Axle
An axle that can be fitted to king pin, used for towing purpose.

Drive
An assembly of the necessary structural, mechanical, and electrial parts provide the motive power to change direction.

Drive Drum
The drum that drives the conveyor belt sometimes called the head drum.

Drum
A cyclindrical or polygonal rim type of wheel around which cable, chain, belt, or other linkage may be wrapped. A drum may be drive or driving. The face may be smooth, grooved, fluted, or flanged.

Drum Lagging
Rubber glued around the drive drum to grip the conveyor belt.

Feed Conveyor
Conveyor used to move the material from the hopper to the main conveyor.

Feedboot
An extended metal surround located at the bottom of the main, tail & side conveyors.

Feeder Unit
Conveyor which feeds the material onto the incline conveyor at an even rate.

Filler Cap
A cap used to seal a tank and is removed in order to fill the tank.

Fines Material
Material that is screened through the lower screen deck and is discharged on to the tail conveyor.

Four Bank
A bank of hydraulic control valves used to control functions of the machine.

Flywheel
A half moon shaped counter weight, which is mounted on the screen unit shaft for the purpose
of counter acting the weight of the eccentric of the screen shaft.

Gate
A device or structure by means of which the flow of material may be stopped or regulated; also a section of a machine equipped with a hinge mechanism for movable service often called a hingesection.

Grid Aperature
The spacing between the grid bars (typically 100mm) which determines the material size that enters the feed hopper.

Grid Bar
Bars used on the grid spaced out with equal spacing. Used to roughly screen material.

Grating
A course screen made of parallel and crossed bars used to prevent passage of oversized material.

Guard
A covering, barricade, grating, fence, or other form of barrier used to prevent inadvertent physical contact with operating components such as gears, spockets, chains, and belts.

Hopper
A box having a funnel shaped bottom, or a bottom reduced in size, narrowed, or necked to receive material and direct it to a conveyor, feeder, or chute.

Hydraulic Components
A part used in the hydraulic system of the machine i.e. valve, motor etc.

Hydraulic Screen Tension
The assistance of hydraulic rams when tensioning the screen meshes.

Jacking legs
Hydraulic adjustable legs which raise or lower the back of the machine for the purpose of coupling to the tractor unit.

King Pin
Coupling used for towing by the tractor unit.

Landing Leg
A support leg which lowers from the machine and is used to stabilise it whilst in the working position.

LHS
Left Hand Side, used with reference to the side conveyors.

Lockout
Procedure to be carried out to ensure the machine is safe for maintenance or repairs

Machine Stop
A stop arising from a sudden and unexpected need, and not as a part of the normal operation.

Main Conveyor
Conveyor used to move the material from the hopper to the screen unit.

Nip Point
A point at which a machine element moving in line meets a rotating element in such a manner that it is possible to nip, pinch, squeeze, or entrap a person or objects coming into contact with one or two of the members.

Optimum Speed
The best or most favourable speed to run a conveyor for example.

Oversize material
Material that is larger than the mesh size and runs off the top screen deck.

Platform
A working space for persons, elevated above the surrounding floor or ground for the operation of machinery and equipment.

Prevent
When used in a context such as prevent access or prevent physical contact, means to impede or block; when used in a context such as prevent injury, means to reduce the chances of, but does not imply that an injury cannot occur.

Powerunit
An inclosed unit situated under the main conveyor which houses the component parts which together drive the machine.

P.S.I
Pounds per square inch. Unit of Pressure. Conversion 1 Bar = 14.5 P.S.I

Rated speed
The speed, as established by the manufacture or a qualified person, at which safe and satisfactory service can be expected.

Return Roller
A roller, which is used to support the unladened belt on the underside of the conveyor.

Recommissioning
To prepare the machine for use.

Reject Grid
An arrangement of equally spaced grid bars which is used to separate the large stones before the material enters the feed hopper.

Retract
Withdraw or fold up conveyor.

Remote control
Any system of controls in which the actuator is situated in a remote location.

RHS
Right Hand Side, used with reference to the side conveyors.

Safety device
A mechanism or an arrangement placed in use for the specific purposes of preventing an unsafe condition, preventing the continuation of an unsafe condition, warning an unsafe condition,
or limiting or elimitating the unsafe effects of a possible condition.

Scraper
A device fixed or flexibly mounted across the width of a belt of a conveyor for removing adherent material.

Screen Drum
Drum which mesh is fitted onto rotates during operation to screen material (Trommel).

Sound Baffles
Plates used to blank out noise from the powerunit.

Screen Unit
Vibratory unit used to separate by size raw materials.

Should
As used in the context of a provision of this manual, indicates a recommendation, the advisability of which depends on the facts in a particular situation.

Shredder Safety Stay
Metal strap which restrains the shredder unit whilst in the raised position.

Take-up
The assembly of the necessary structural and mechanical parts that provides the means to adjust the length of belts, cables, chains, etc. to compensate for stretch, shrinkage, and wear.

Shredder Unit
Swinging fail type unit which is located at the discharge end of the feed conveyor and is used to break down material.

Side Conveyor
Conveyor used to collect the material from the screen unit and move it to the discharge area at 90 degrees to the main machine.

Side Roller
Roller used to create arc on the belt to reduce spillage.

Spillage
Material that spills over the edge of a conveyor etc.

Spill guard
A stationary device of sufficient strength and capacity to catch, retain, and contain any reasonably foreseeable spillage from a conveyor passing overhead.

Spreader Plate
Swinging plate located at the discharge end of the main conveyor and is used to spread the material evenly on the screen unit.

Sprocket
A toothed wheel arranged to fit into the links of a chain.

Strut
Rigid support used to hold an assembly in place.

Swivel Conveyor
Conveyor used to discharge fines material. Swivel through 180^{o} to increase stockpiling capacity.

Tail Conveyor
Conveyor used to collect the fines material from the screen unit and move it to the discharge area.

Tow pin
A movable or fixed member, used to engage a push or pull.

Telescopic Head Section
A section of a conveyor which extends out telescopically into transport position.

Tracks
The beams, shapes, or formed section on which trolleys, rollers, shoes, or wheels roll or slide while propelled.

Transport Bracket
A bracket used to hold an assembly in place whilst in transport.

Transport Position
The position of the machine when conveyors are folded.

Variable Speed Flow Control
A device which is used to hydraulically vary the speed of the conveyor belt.

Viewing Apertures
Opening holes to view the conveyor belt.

Vulcanized Belt
A conveyor belt that has been joined seamlessly using a special treatment.

Wheel Nut Torque
A measure of pressure applied to tightened a nut.


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Contents

0.1.1 Warnings and symbols

Safety Alert Symbol
The safety alert symbol is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

Safety Alert Symbol

Hazard Classification
A multi-tier hazard classification system is used to communicate potential personal injury hazards. The following signal words used with the safety alert symbol indicate a specific level of severity of the potential hazard. Signal words used without the safety alert symbol relate to property damage and protection only. All are used as attention-getting devices throughout this manual as well as on decals and labels fixed to the machinery to assist in potential hazard recognition and prevention.

DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

0.1.1 Warnings and symbols Symbols - CONTINUED

Safety Sign Maintenance
Replace any missing or damaged safety signs. Keep operator safety in mind at all times. Use mild soap and water to clean safety signs. Do not use solvent-based cleaners because they may damage the safety sign material.

0.1.2 Personal Safety

Powerscreen equipment is designed with the safety of all personnel in mind.
Never attempt to change, modify, eliminate or bypass any of the safety devices installed at the factory. Guards, covers and shields installed around moving parts at the factory are meant to prevent accidental injury to operators and other personnel. Do not remove them.
Make sure that everyone working on or near this equipment is familiar with safety precautions.

Powerscreen Int. Dis. Ltd recommends the following basic safety practices:
• Read all danger, warning, caution and notice signs.
• Always lock out and tag out involved energy sources before performing maintenance or adjustments on this equipment. Make it impossible for anyone to start this machine while others work on it or in it.
• Never remove any guard, cover or shield when this equipment is in motion.
• Replace guards, covers and shields when the task for which you removed them is finished.
• Block parts as necessary to prevent their sudden movement while people are working on the machine.
• Wear proper personal protective equipment, including eye protection, hard hat and safety shoes, whenever you're near this machine while it is running.
• Dress appropriately in every way. Never wear loose clothes, long hair, coat tails, jewelry, pockets full of tools or any other item that could get caught in moving parts.
• Know where your fellow workers are. Always look around and inside this machine before starting it. Make sure nobody is in the way of moving parts or working on the machine.
• Report any defective machinery or equipment and unsafe conditions or activity to your boss immediately.
• Don't limit safety practices to the few rules listed here. Think safety and act safely at all times.
• Most of all, know your equipment. Understand the machinery, the conditions under which it operates and what it is capable of doing.

0.1.3 Equipment & Tools

• Keep the work area as neat and clean as practical.
• Keep all product safety signs clean, clear and current. Replace any damaged or missing safety signs.
• Make sure all electrical equipment is properly grounded. Wet spots near electrical current are especially dangerous.
• Store hazardous materials in restricted access areas and mark them clearly. Federal regulations require special labeling of certain materials.
• Never start an engine in an enclosed space without properly venting the exhaust.
• Do not smoke or allow smoking near fuels and solvents. Never strike a spark or use an open flame near fuels and solvents.
• Store flammable fuels, solvents and gases in secure, well ventilated areas. Never allow fumes to accumulate in the storage area. Use nonflammable solvents for cleaning parts and equipment whenever possible.
• Know where fire extinguishers and other fire suppression equipment are located. Learn how to use them effectively.
• Be alert and wary around any pressurized system, hydraulic or pneumatic. High pressure oils and gases are very dangerous.

0.1.4 Equipment & Tools

• Clean tools that are properly labeled and stored are safer tools. Keep your tools in good order.
• Keep drive belts and sheaves in good condition. Frayed belts or cracked sheaves are not only dangerous, they cost you downtime.
• Always use mechanical assistance to lift heavy loads. Never overload a hoist, crane, jack or other lifting device. Check lifting tackle regularly; replace it at the first sign of stretch, fraying or other wear.
• Keep your equipment clean, free of dirt and grease, so that loose, cracked or broken parts are more easily spotted. Replace defective parts as soon as they are discovered.

0.1.5 Lockout & Tagout

Code of Federal Regulations number 1910.147 requires that employers establish and follow a Lockout & Tagout procedure and train their employees in that procedure before any employee can operate, service or maintain any piece of power equipment. Employers are required to make periodic inspections to see that their Lockout & Tagout procedures are being followed, and they must monitor and update their program on an ongoing basis. Employees are responsible for seeing that equipment is locked out and tagged out in accordance with the employer's policy.

0.1.6 Organisational measures

0.1.6.1
Loose or baggy clothing can get caught in running machinery.
Where possible when working close to engines or machinery, only do so when they are stopped.
If this is not practical, remember to keep tools, test equipment and all other parts of your body well away from the moving parts.

For reasons of safety, long hair must be tied back or otherwise secured, garments must be close fitting and no jewellery - such as rings - may be worn. Injury may result from being caught up in the machinery or from rings catching on moving parts.

Always wear correctly fitting (EN/ANSI approved) protective clothing.

Protective clothing includes Hard Hat, Safety Glasses, Ear Protection, Close fitting Overalls, Steel Toed Boots and a High Visibility Vest.

0.1.6.2
You can be injured if you do not obey the safety instructions as indicated on warning stickers.

Observe all safety instructions and warnings attached to the machine!

See to it that safety instructions and warnings attached to the machine are always complete and perfectly legible.

Keep warning and instruction labels clean.

Replace unreadable or missing labels with new ones before operating the machine. Make sure replacement parts include warning or instruction labels where necessary.

0.1.6 Organisational measures - CONTINUED

0.1.6.3

Never make any modifications, additions or conversions which might affect safety without the supplier's approval.

In the event of safety-relevant modifications or changes in the behaviour of the machine during operation, stop the machine and lock out immediately and report the malfunction to the competent authority/person.

0.1.6.4

Understand service procedure before doing work. Keep area clean and dry.

Never lubricate, clean, service or adjust machine while it is moving. Keep hands, feet and clothing clear of power driven parts and in-running nip points. Disengage all power and operate controls to relieve pressure. Stop the engine. Implement lockout procedure. Allow the machine to cool.

Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn and broken parts. Remove any build up of grease, oil or debris.

Disconnect battery ground cable before making adjustments on electrical systems or welding on machine.

For the execution of maintenance work, tools and workshop equipment adapted to the task on hand are absolutely indispensable.

0.1.7 Selection and qualification of personnel - Basic responsibilities

0.1.7.1
Any work on and with the machine must be executed by reliable, authorised personnel only. Statutory minimum age limits must be observed.

0.1.7.2
Work on the electrical system and equipment of the machine must be carried out only by a skilled electrician or by instructed persons under the supervision and guidance of a skilled electrician and in accordance with electrical engineering rules and regulations.

0.1.7.3
Work on the hydraulic system must be carried out only by personnel with special knowledge and experience of hydraulic equipment.

0.1.8 Safety instructions governing specific operational phases

0.1.8.1.1
Take the necessary precautions to ensure that the machine is used only when in a safe and reliable state.

Operate the machine only if all protective and safety-oriented devices, such as removable safety devices, emergency shut-off equipment, sound-proofing elements and exhausts, are in place and fully functional.

0.1.8.1.2
In the event of malfunctions, stop the machine immediately and lock out. Have any defects rectified immediately.

0.1.8.2 Special work in conjunction with utilization of the machine and maintenance and repairs during operation; disposal of parts and consumables

0.1.8.2.1

Observe the adjusting, maintenance and inspection activities and intervals set out in the operating instructions, except where:
A: Warning light/ gauge or indicator calls for immediate action.

B: Adverse conditions neccessitate more frequent servicing.

Observe information on the replacement of parts and equipment. These activities may be executed by skilled personnel only.

0.1.8.2.2
If the machine is completely shut down for maintenance and repair work, it must be secured against inadvertent starting by:

- Switching off the engine and removing the ignition key.

- Implementing the lockout procedure.

- Attaching a warning sign to the control panel door

0.1.8.2.3
Carry out maintenance and repair work only if the machine is positioned on stable and level ground and has been secured against inadvertent movement and buckling.

0.1.8.2.4
Never allow unqualified personnel to attempt to remove or replace any part of the machine, or anyone to remove large or heavy components without adequate lifting tackle.

To avoid the risk of accidents, individual parts and large assemblies being moved for replacement purposes should be carefully attached to lifting tackle and secured.

Use only suitable and technically adequate lifting gear.

Never work or stand under suspended loads

0.1.8.2.5
Falling from and/or onto a POWERSCREEN machine can cause injury or even death.

Do not climb on the machine.
Never use machine parts as a climbing aid.

For carrying out overhead assembly work always use specially designed or otherwise safety-oriented ladders and working platforms.

Always use the walkway/platforms provided or a safe and secure platform approved by the regional safety enforcing authority.

Always use an EN/ANSI approved safety harness when reaching any points 7ft (2m) or more above the ground level.

Keep all handles, steps, handrails, platforms, landings and ladders free from dirt, oil, snow and ice.

0.1.8.2.6
The fastening of loads and the instructing of crane operators should be entrusted to experienced persons only. The marshaller giving the instructions must be within sight or sound of the operator.

0.1.8.2.7
After cleaning, examine all fuel, lubricant, and hydraulic fluid lines for leaks, loose connections, chafe marks and damage. Any defects found must be rectifie without delay.

0.1.8.2.8
Any safety devices removed for set-up, maintenance or repair purposes must be refitted and checked immediately upon completion of the maintenance and repair work.

0.1.8.2.9
Improperly disposing of waste can threaten the environment and ecology. Potentially harmful waste used with Powerscreen equipment includes such items as oil, fuel, coolant, filters and batteries.

Use leakproof containers when draining fluids. Do not use food or beverage containers that may mislead someone into drinking from them.

Do not pour waste onto the ground, down a drain or into any water source.

Ensure that all consumables and replaced parts are disposed of safely and with minimum enviromental impact.

0.1.8.2.10
A raised part of the machine can fall causing serious injuries or death.

Always fit a safety support strut if any part of the machine must be raised for any reason.

Never work under unsupported equipment.

Never work alone.

0.1.8.2.11

Diesel fuel is highly flammable.
Never remove the filler cap, or refuel, with the engine running.

Never add gasoline or any other fuel mixes to diesel because of increased fire or explosion risks.

Do not smoke or carry out maintenance on the fuel system near naked lights or sources of sparks, such as welding equipment.

0.1.8.2.12

Using unauthorised structures i.e. walkways, platforms etc in the vicinity of a POWERSCREEN machine is very dangerous and could lead to serious injury or even death through falling and/or entanglement with the machine.

Do not use any unauthorised structures.

0.1.8.2.13

In-running nip points can cause serious injury or even death.

Do not reach into an unguarded machine.

Your arm could be pulled in and amputated.

Lockout machine before opening guard doors

0.1.9 Warning of special dangers

0.1.9.1 Electric energy

0.1.9.1.1
Use only original fuses with the specified current rating. Switch off the machine immediately if trouble occurs in the electrical system.

0.1.9.1.2
When working with the machine/plant, maintain a safe distance from overhead electric lines. If work is to be carried out close to overhead lines, the working equipment must be kept well away from them. Caution, danger! Check out the prescribed safety distances.

0.1.9.1.3
If your machine comes into contact with a live wire:
- Warn others against approaching and touching the machine.

- Have the live wire de-energized.

0.1.9.1.4
Work on the electrical system or equipment may only be carried out by a skilled electrician himself or by specially instructed personnel under the control and supervision of such an electrician and in accordance with applicable electrical engineering rules.

0.1.9.1.5
If provided for in the regulations, the power supply to parts of machines and plants, on which inspection, maintenance and repair work is to be carried out must be cut off.

Before starting any work, check the de energized parts for the the presence of power and ground or short-circuit them in addition to insulating adjacent live parts and elements.

0.1.9.1.6
The electrical equipment of the machine is to be inspected and checked at regular intervals.
Defects such as loose connections or scorched or otherwise damaged cables must be rectified immediately.

0.1.9.1.7
Necessary work on live parts and elements must be carried out only in the presence of a second person, who can cut off the power supply in case of danger by actuating the emergency shut off or main power switch. Secure the working area with a red-and-white safety chain and a warning sign. Use insulated tools only.

0.1.9.1.8
Before starting work on high-voltage assemblies and after cutting out the power supply, the feeder cable must be grounded and components such as capacitors short-circuited with a grounding rod.

0.1.9.1.9
These machines are wired on negative earth.
Always observe correct polarity.

Always disconnect battery leads before carrying
out any maintenance to the electrical system.

The battery contains sulphuric acid, an electrolyte which can cause severe burns and produce explosive gases.

Avoid contact with the skin, eyes or clothing.

0.1.9.2 Gas, dust, steam and smoke

0.1.9.2.1
Always operate internal combustion engines and fuel operated heating systems only out of doors or in a well ventilated area. Before starting the machine in enclosed premises, make sure that there is sufficient ventilation.

Observe the regulations in force at the respective site.

Dust found on the machine or produced during work on the machine should be removed by extraction, not by blowing.

Dust waste should be dampened, placed in a sealed container and marked, to ensure safe disposal.

0.1.9.2.2
Carry out welding, flame-cutting and grinding work on the machine/plant only if this has been expressly authorised, as there may be a risk of explosion and fire.

0.1.9.2.3

Before carrying out welding, flame cutting and grinding operations, clean the machine and its surroundings from dust and other inflammable substances and make sure that the premises are adequately ventilated (as there may be a risk of explosion).

0.1.9.3 Hydraulic and pneumatic equipment

0.1.9.3.1
Work on hydraulic equipment may be carried out only by persons having special knowledge and experience in hydraulic systems.

0.1.9.3.2
Check all lines, hoses and screwed connections regularly for leaks and obvious damage. Repair damage immediately. Splashed oil may cause injury and fire.

0.1.9.3.3
Depressurise all system sections and pressure pipes (hydraulic system, compressed-air system) to be removed in accordance with the specific instructions for the unit concerned before carrying out any repair work.

0.1.9.3.4

Hydraulic and compressed-air lines must be laid and fitted properly. Ensure thatno connections are interchanged. The fittings, lengths and quality of the hoses must comply with the technical requirements.

0.1.9.3.5
Always practice extreme cleanliness when servicing hydraulic components.

0.1.9.3.6
Hydraulic fluid under pressure can penetrate the skin causing serious injury.

If fluid is injected under the skin, it must be surgically removed or gangarene will result.

Always relieve pressure from the hydraulic system before carrying out any kind of maintenance or adjustment.

Always use a piece of cardboard to check for leaks. Do not use your hand.

Get medical help immediately.

0.1.10 Transporting and towing recommissioning

0.1.10.1
The machine must be towed, loaded and transported only in accordance with the operating instructions.

0.1.10.2
For towing the machine, observe the prescribed transport position, admissible speed and itinerary.

0.1.10.3
Use only appropriate means of transport and lifting gear of adequate capacity.

0.1.10.4
The recommissioning procedure must be strictly in accordance with the operating instructions.

0.1.10.5
Before starting work or travelling with the machine, check that the braking, signalling and lighting systems are fully functional.

0.1.10.6
Before setting the machine in motion always check that the accessories have been safely stowed away.

0.1.10.7
When travelling on public roads, ways and places, always observe the valid traffic regulations and, if necessary, ensure beforehand that the machine is in a condition compatible with these regulations.

0.1.10.8
In conditions of poor visibility and after dark, always switch on the lighting system.

0.1.10.9
When crossing underpasses, bridges and tunnels or when passing under overhead lines always make sure that there is sufficient clearance.

0.1.10.10
Never travel across slopes; always keep the working equipment and the load close to the ground, especially when travelling downhill.

0.1.10.11
On sloping terrain, always adapt your travelling speed to therelevant ground conditions.

Never change to a lower gear on a slope. Always change gear before reaching a slope.

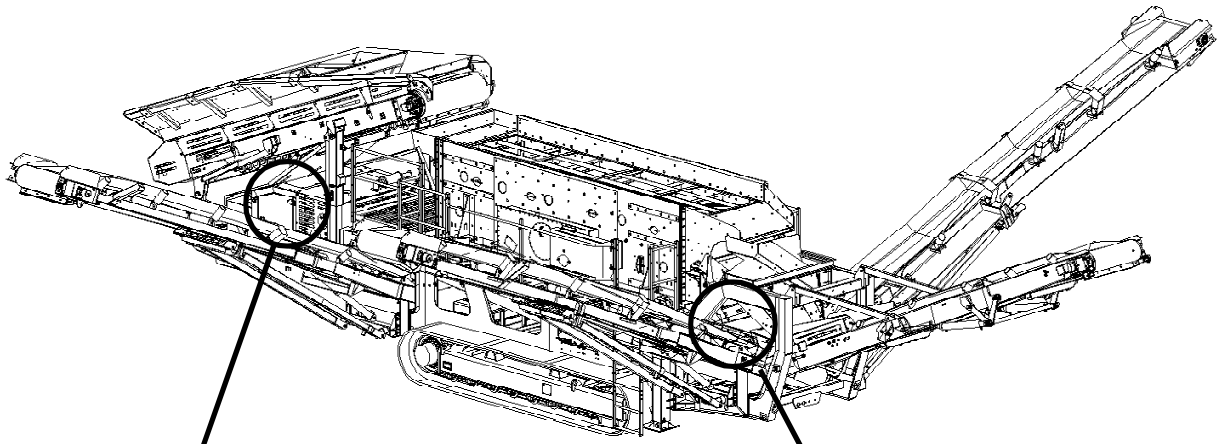
0.1.10.12
Explosive separation of a tyre and rim parts can cause injury or death.

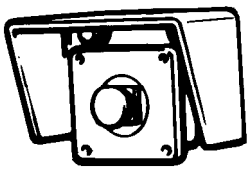
Do not attempt to mount a tyre unless you have the proper equipment and experience to perform the job.

Always maintain the correct pressure. Do not
inflate the tyres above the recommended pressure. Never weld or heat wheel and tyre assembly. The heat can cause an increase in air pressure resulting in a tyre explosion. Welding can structurally weaken or deform the wheel. When inflating tyres, use a clip-on chuck and extension hose long enough to allow you to stand to one side and not in front or over the assembly.

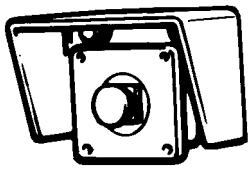
Use safety cage if available.
Check wheels for low pressure, cuts, bubbles, damaged rims or missing lug bolts and nuts.

0.1.11 Position of emergency stops





EMERGENCY STOP LEFT AND RIGHT SIDE OF POWERUNIT



EMERGENCY STOP LEFT + RIGHT HAND SIDE OF FRONT OF MACHINE

0.1.12 Machine Safety hazard decals

Decal reference numbers listed on this and the proceeding pages.

0.1.12 Machine Safety hazard decals - CONTINUED

0.1.12 Machine Safety hazard decals - CONTINUED

OLD STYLE - 409

NEW ANSI - 1506

NEW ISO - 1506

OLD STYLE - 410

NEW ANSI - 1507

NEW ISO - 1507

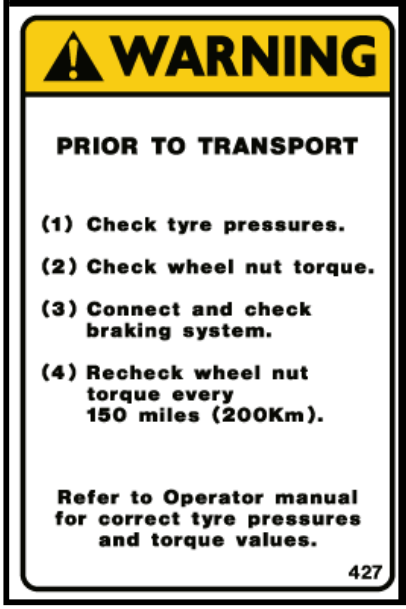
0.1.12 Machine Safety hazard decals - CONTINUED

OLD STYLE - 426

NEW ANSI - 1508

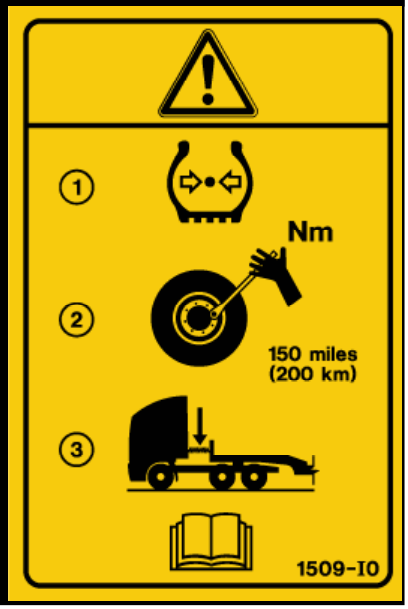
NEW ISO - 1508

OLD STYLE - 427



NEW ANSI - 1509

NEW ISO - 1509



0.1.12 Machine Safety hazard decals

OLD STYLE - 562

NEW ANSI - 1511

NEW ISO - 1511

OLD STYLE - 902

NEW ANSI - 1512

NEW ISO - 1512

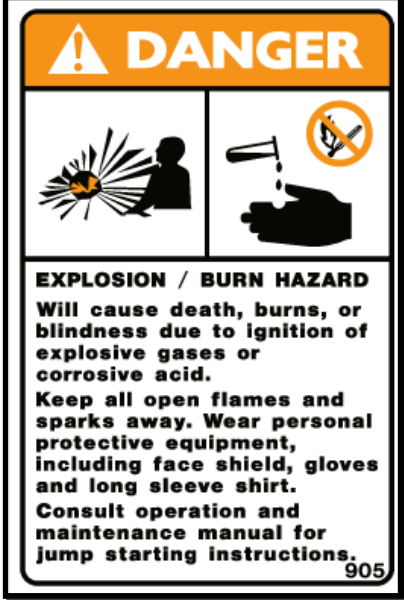
0.1.12 Machine Safety hazard decals - CONTINUED

OLD STYLE - 903

NEW ANSI - 1513

NEW ISO - 1513

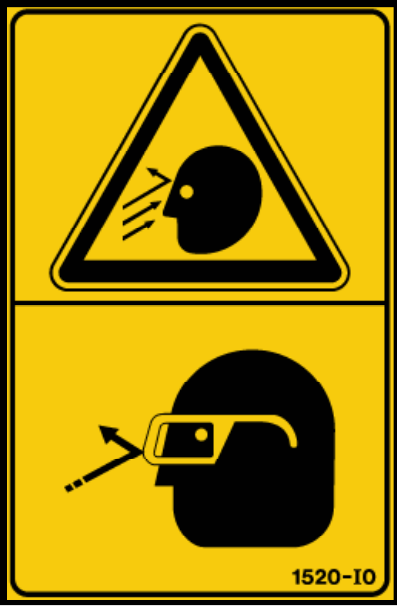
OLD STYLE - 905



NEW ANSI - 1514

NEW ISO - 1514

0.1.12 Machine Safety hazard decals - CONTINUED

OLD STYLE - 907	NEW ANSI - 1515	NEW ISO - 1515
		
OLD STYLE - NONE	**NEW ANSI - 1520**	**NEW ISO - 1520**
		

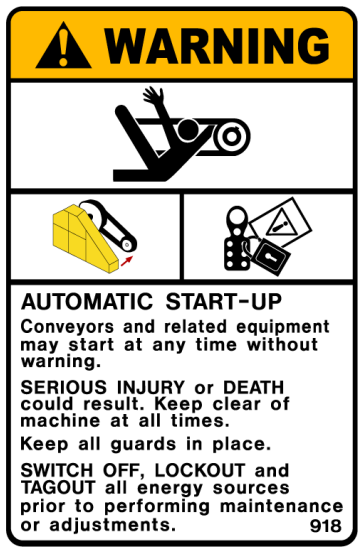
0.1.12 Machine Safety hazard decals - CONTINUED

OLD STYLE - 917

NEW ANSI - 1521

NEW ISO - 1521

OLD STYLE - 918

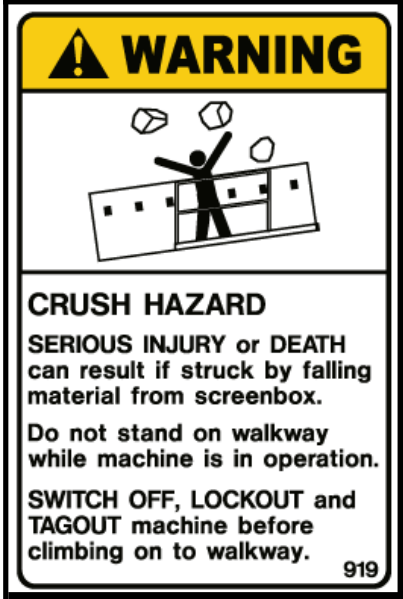


NEW ANSI - 1522

NEW ISO - 1522

0.1.12 Machine Safety hazard decals - CONTINUED

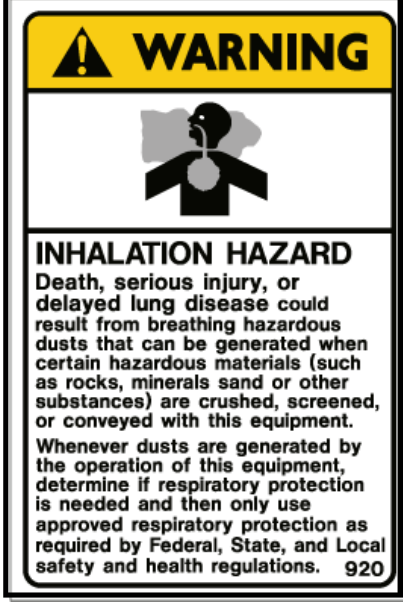
OLD STYLE - 919



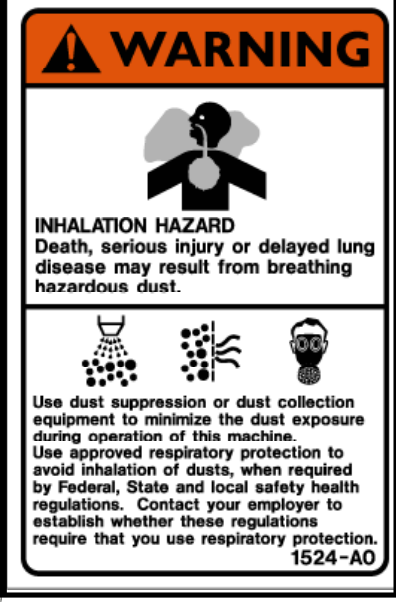
NEW ANSI - 1523

NEW ISO - 1523

OLD STYLE - 920



NEW ANSI - 1524



NEW ISO - 1524

0.1.12 Machine Safety hazard decals - CONTINUED

OLD STYLE - 1144

NEW ANSI - 1525

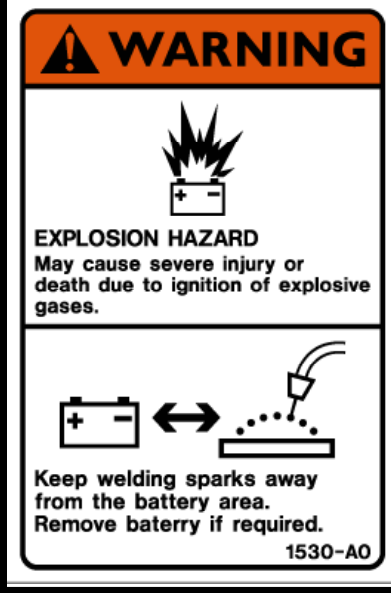
NEW ISO - 1525

OLD STYLE - NONE

NEW ANSI - 1528

NEW ISO - 1528

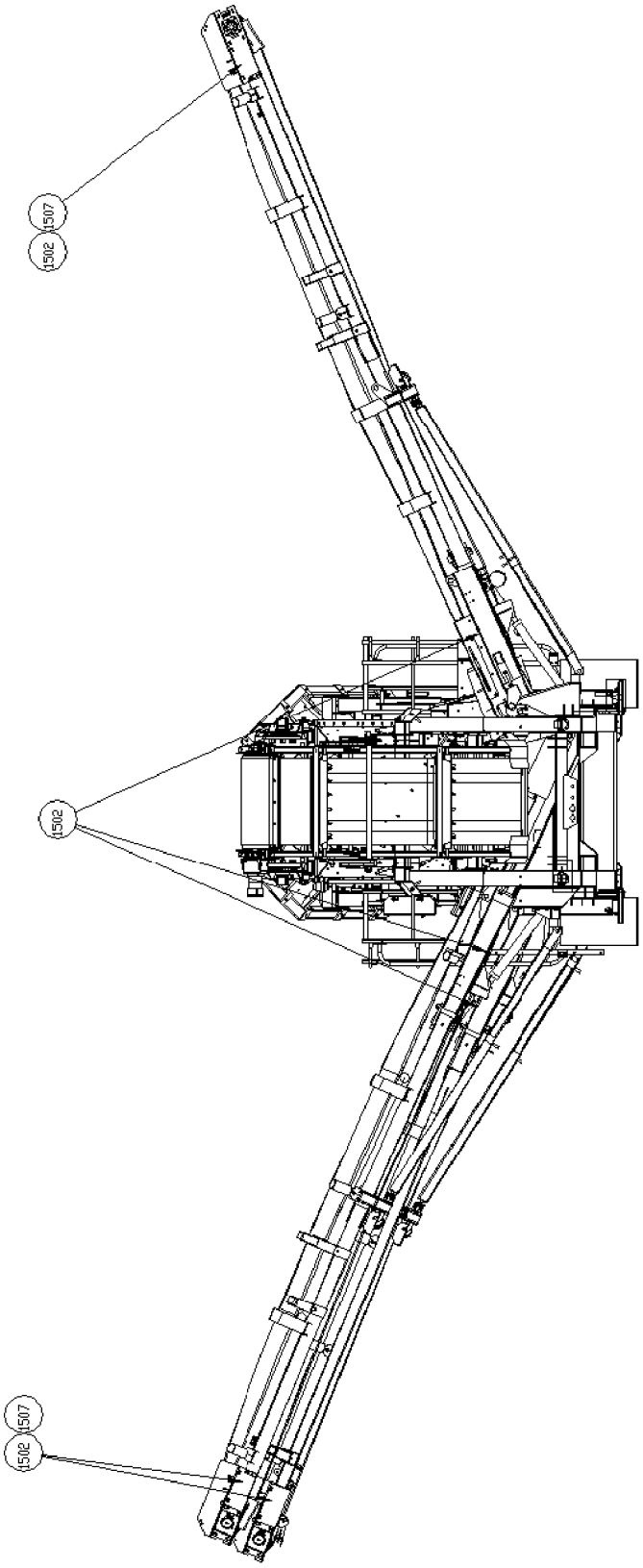
0.1.12 Machine Safety hazard decals - CONTINUED

OLD STYLE - NONE	NEW ANSI - 1530	NEW ISO - 1530
		
OLD STYLE - NONE	**NEW ANSI - 1531**	**NEW ISO - 1531**
		

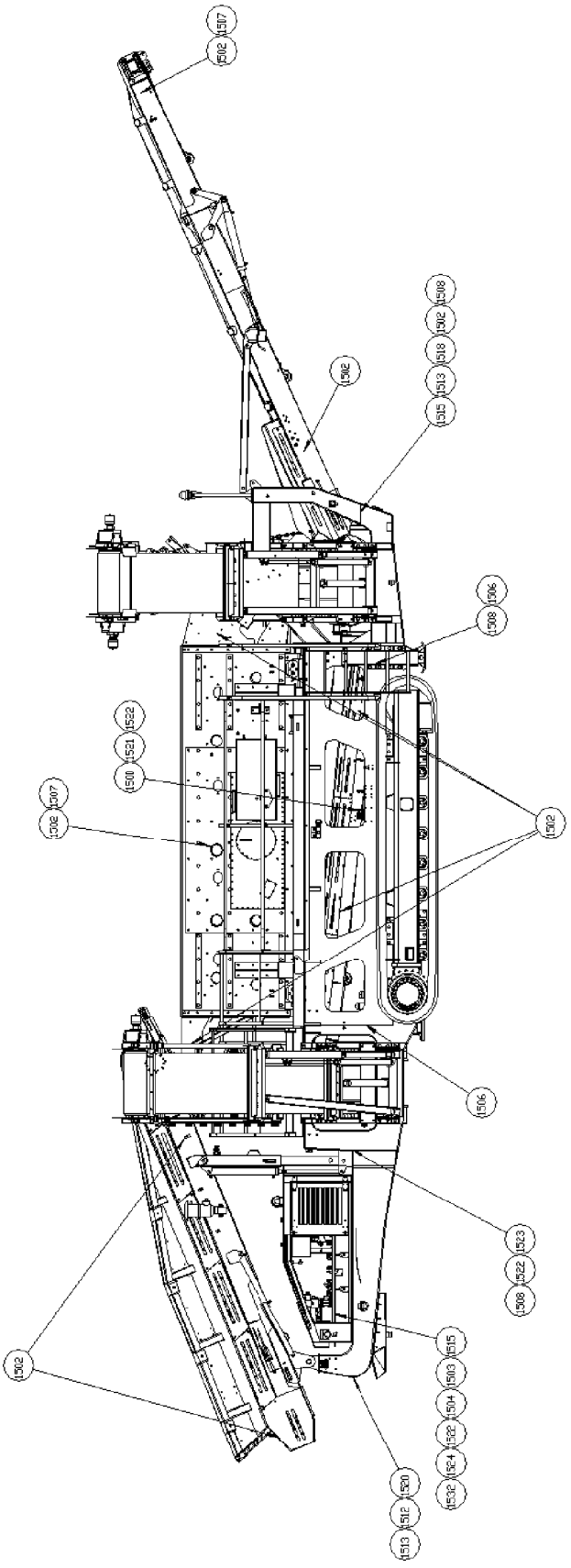
0.1.12 Machine Safety hazard decals - CONTINUED

OLD STYLE - NONE	NEW ANSI - 1532	NEW ISO - 1532
		

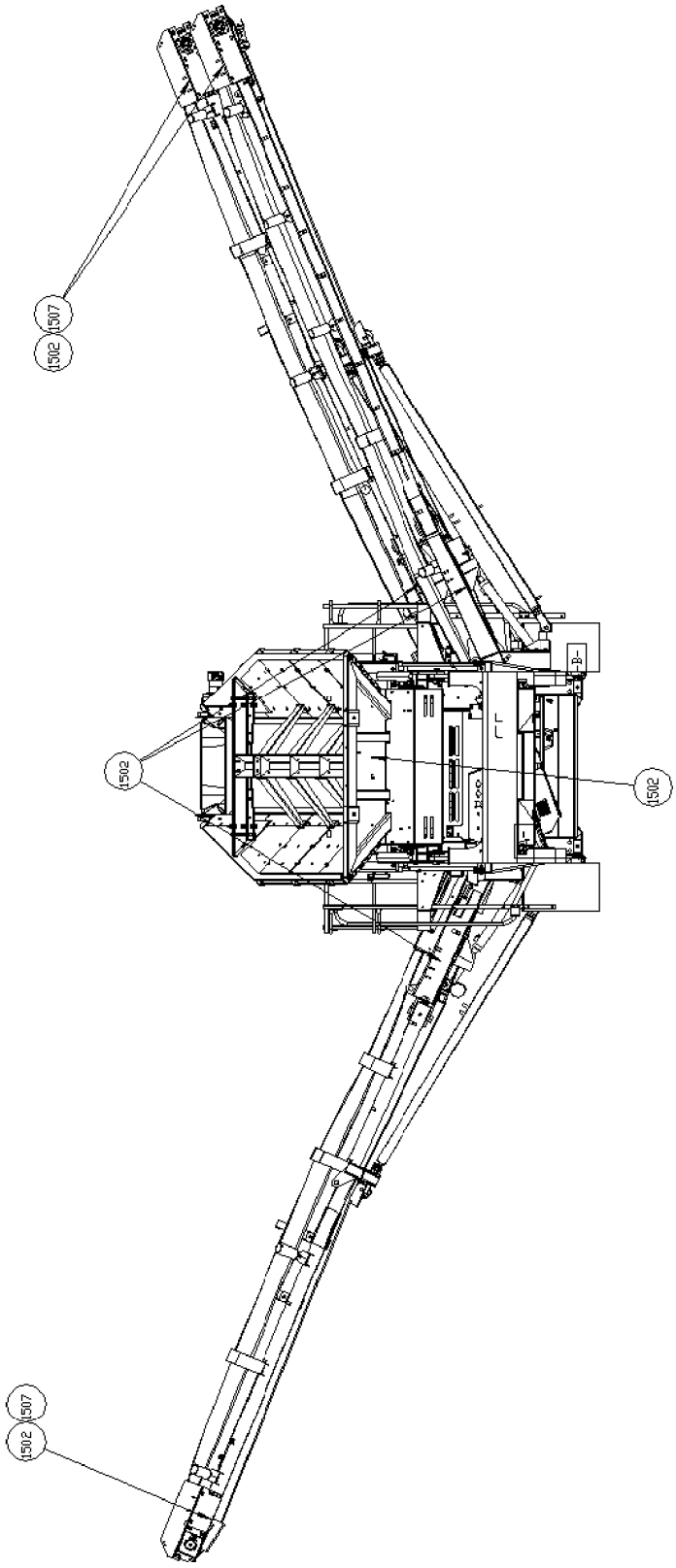
0.1.13 Machine safety hazard locations - End view



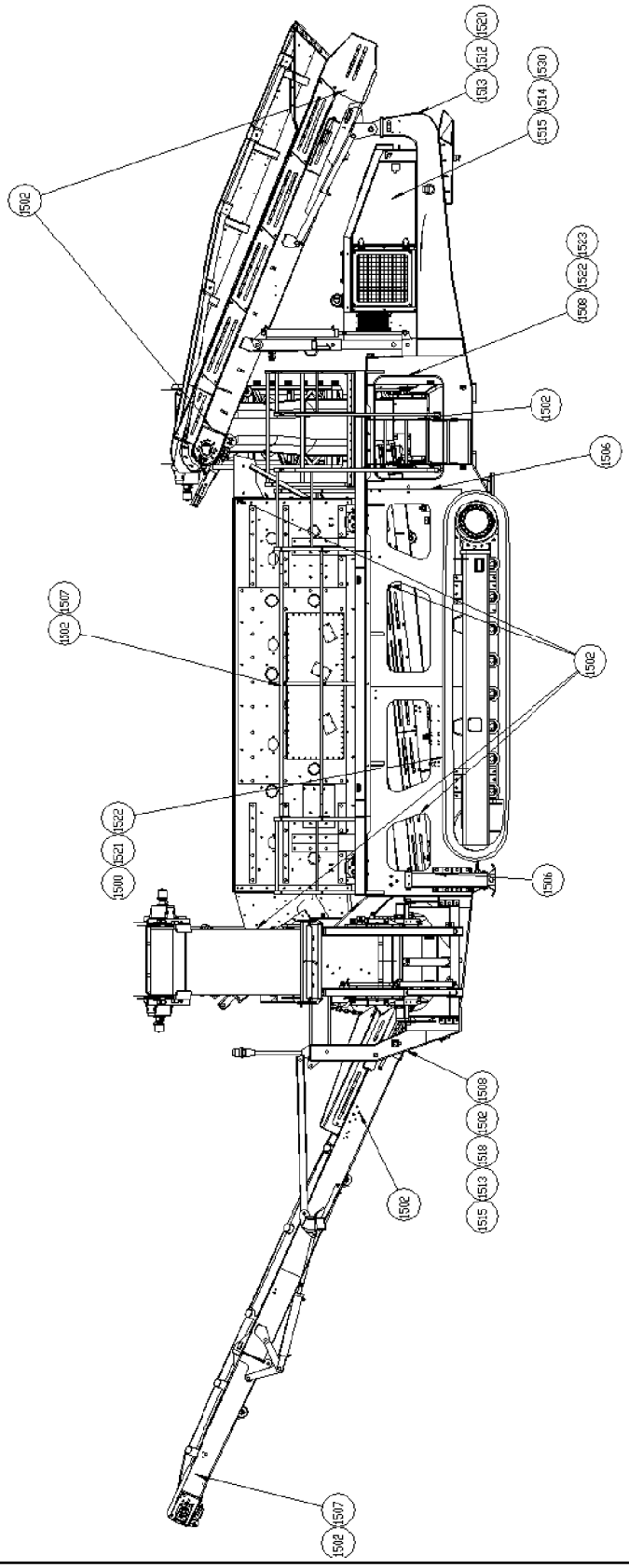
0.1.13 Machine safety hazard locations - Right hand side



0.1.13 Machine decal hazard locations - Front view



0.1.13 Machine decal hazard locations - Left hand side



Contents

1.1 General information

H5163

Machine : ..... Mobile screening machine
Machine Serial Number ..... :
Engine/Electric Motor Serial number : .....

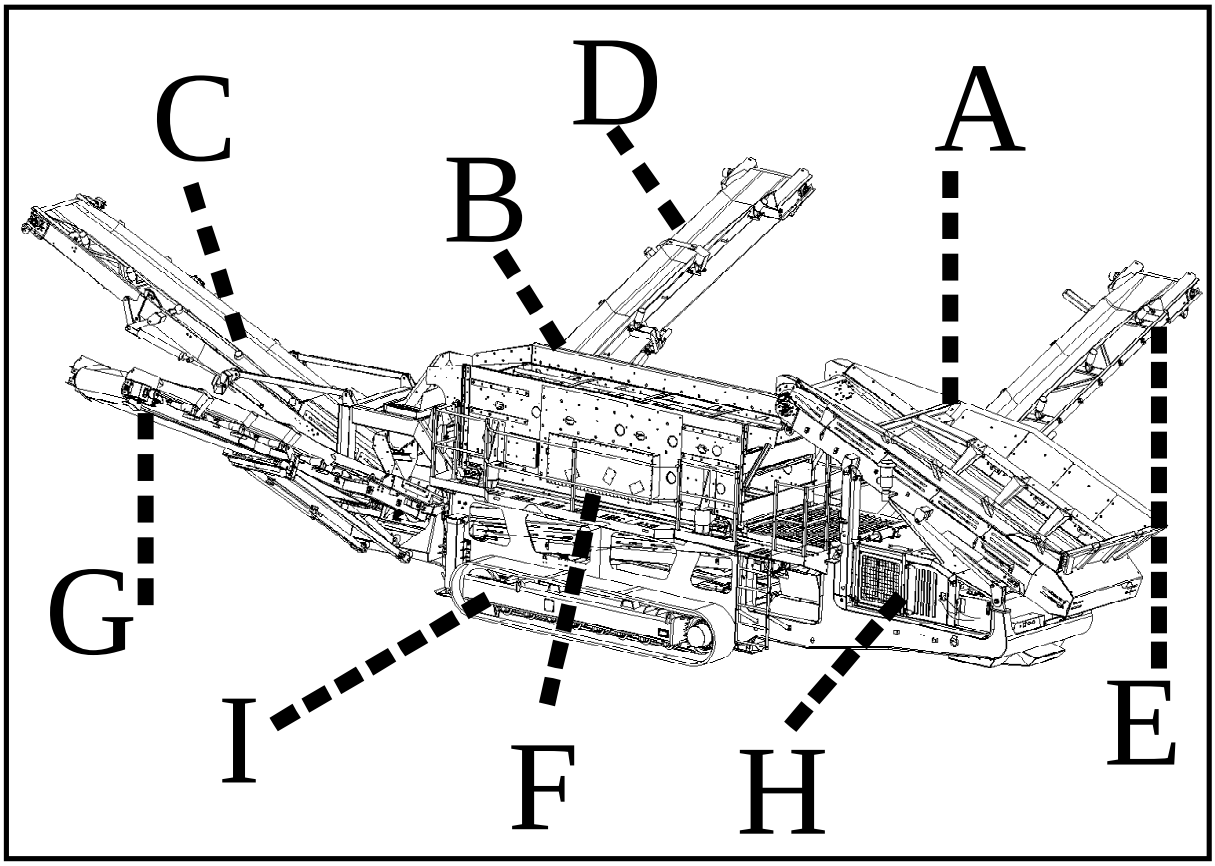
H5163R
Total weight (Belt Feeder) ..... : Approx 36, 500 kg

H5163
Total weight (Incline) ..... : Approx 35,500kg (40.23 US Tons)
..... ESTIMATED

Overall dimensions ..... : Refer designs in Section Appendix
Weight of construction units ..... : Refer to pertinent data on the
..... following pages.

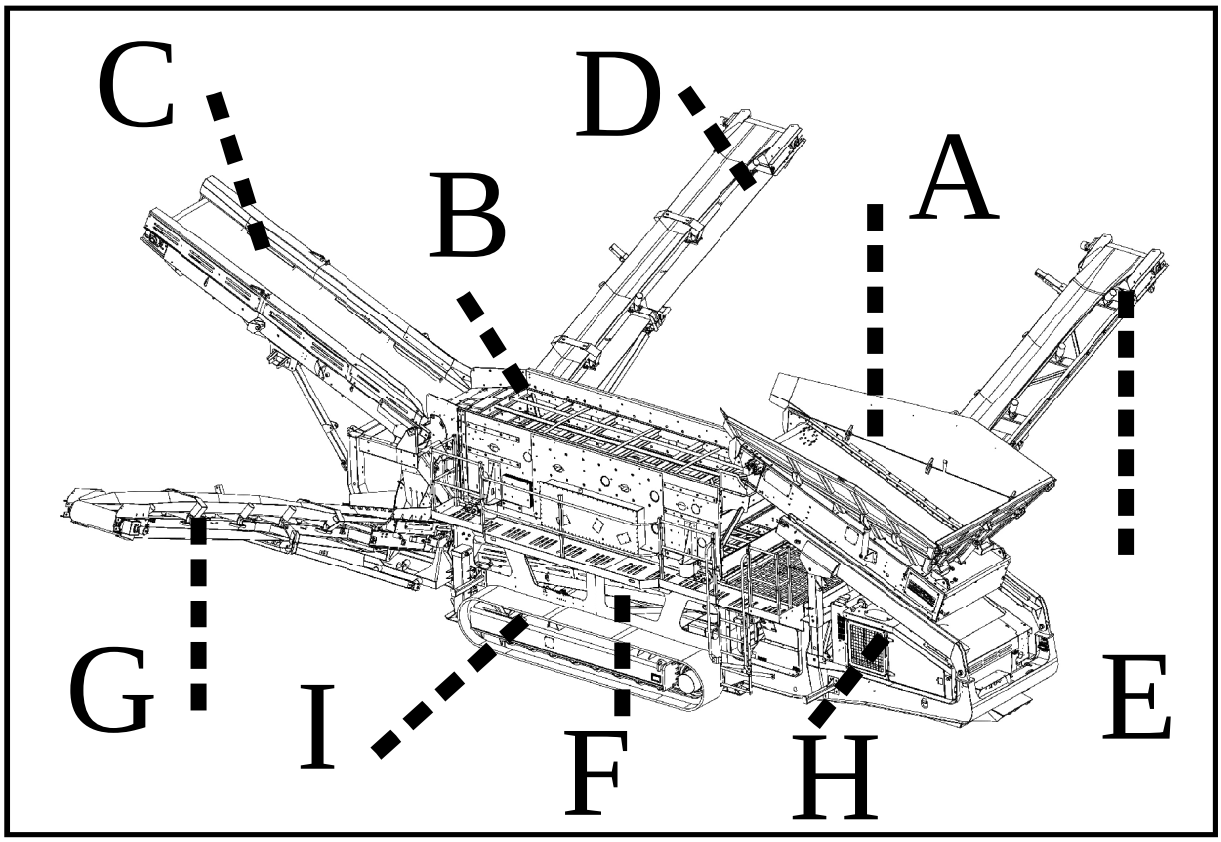
Dimensions of construction units ..... : Refer to pertinent data on the
..... following pages.
Finish Painted code
Colour shall be to traceable standards. ..... : BLUE RAL 5201
..... BLACK RAL 9005

1.2 H5163 Nomenclature and technical data



Id	Construction unit	Component
A	Feeder unit	Feeder / Hopper
B	Screen unit	Screen box / Mesh deck
C	Tail conveyor	
D	Mid - Fines side conveyor	
E	Fines side conveyor	
F	Collection conveyor	
G	Mid - Oversize side conveyor	
H	Powerunit / Engine	
I	Chassis / Tracks	
J	Hydraulics	

1.2 H5163R Nomenclature and technical data



Id	Construction unit	Component
A	Feeder unit	Feeder / Hopper
B	Screen unit	Screen box / Mesh deck
C	Tail conveyor	
D	Mid - Fines side conveyor	
E	Fines side conveyor	
F	Collection conveyor	
G	Oversize side conveyor	
H	Powerunit / Engine	
I	Chassis / Tracks	
J	Hydraulics	

1.2.1 Feeder unit (A)

H5163R

1.2.1.1 Feed hopper (inclined)

Opening size.....5.23 m x 2.70m (17' x 8'10")
Capacity.....4.33 m^3 (5.67 yds^3).
Feed in height.....2.68m (8'10")

1.2.1.2 Feeder conveyor

Belt width..... 1300mm (51") wide 4-ply plain trough belt.

H5163

1.2.1.3 Feed hopper (inclined)

Opening size.....4.4m (14'5") long x 2.70m (8'-10") wide
Capacity.....6.78 m^3 (8.87 yrd^3)
Feed in height (Side).....3.85m (12'-8")
Feed in height.(Rear).....3.85m (12'-8")

1.2.1.4 Feeder conveyor

Belt width..... 1300mm (51") wide 4-ply plain trough belt.

1.2.2 Screen unit (B)

1.2.2.1 Screenbox -

Width.....1.56m (5'2")
Length.....4.88 m (16')
Weight.....8000 Kg Approx
Oval stroke adjustable.....Maximum 19 mm (3/4')
Oval stroke angle adjustable.....From 30 - 60 degrees

1.2.3 Tail Conveyor (C)

1.2.3.1 H5163R

Belt width .....900 mm (36")
Stockpile Height .....4.16m (13' 8")
Degree of incline: .....24°

1.2.3.2 H5163

Belt width .....1200 mm (48")
Stockpile Height .....4.52m (14' 10")
Degree of incline: .....10-22°

1.2.4 Mid - Fines Side Conveyor (D)

Belt width.....800 mm (32")
Stockpile Height.....4.46m (14' 8")

1.2.5 Fines (E)

Belt width.....800 mm (32")
Stockpile Height.....4.46m (14'- 8")

1.2.6 Collection Conveyor (F)

Belt width.....1200 mm (48")

1.2.7 Oversize Side Conveyor (H5163R) (G)
Mid - Oversize Side Conveyor (H5163) (G)

Belt width.....800 mm (32")
Stockpile Height.....4.68m (14'- 8")

1.2.8 Power unit (H)

H5163R

1.2.8.1 Engine

DIESEL ENGINE:STANDARD

CAT C4.4 ACERT - 4 Cylinder diesel engine developing 97kW (130 bhp) @2200 RPM

Flywheel pump1: X1A 5063/5041/5041
PTO pump1: X1A 5023/5023

Feeder Motors:	Danfoss OMSS125 (125cc/rev) 2 OFF
Oversize recir side conveyor:	Danfoss OMH 400 (400cc/rev)
Mid overs tail conveyor:	Danfoss OMT500 (500cc/rev)
Mid fines tail conveyor:	Danfoss OMH400 (400cc/rev)
Collection Conveyor Motor:	Danfoss OMT500 (500cc/rev)
Fines side conveyor:	Danfoss OMT500 (500cc/rev)
Screen Motor:	Parker F12 93 (93cc/rev)

H5163

DIESEL ENGINE:STANDARD

Standard diesel engine: 4 cylinder diesel engine developing 97kW (130 bhp) @ 2200rpm

Flywheel pump: 63cc/rev and 41cc/rev and 41cc/rev
PTO 'A' pump: ..... 23cc/rev each circuit
Feed conveyor motors: ..... 125cc/rev x 2 off
Oversize recir side conveyor: 400cc/rev
Mid overs tail conv: 500cc/rev
Mid fines side conv: 400cc/rev
Under screen conveyor: 500cc/rev
Fines side conveyor motors: 500cc/rev
Screen Motor: 93cc/rev

Tank Capacities:
Hydraulic tank: 576L (153 US Gal)
Diesel tank: 336 L (89 US Gal)
Refer to engine operation manual in Section Appendix.

1.2.8.2 Battery

Type: 12 Volt, negative earth - 2 OFF
Cranking Power: 810 amps SAE

1.2.9 Chassis (I)

1.2.9.1 Tracks

Tractive effort: 20,830 daN
Gradability percentage: 61.3%
Gearbox ratio: 1:153
Hydraulic motor: Rexroth 90 cc/rev.
Approximate speed: 0.62 Km/hr (0.39 Mph)
Flow rate: 90.2Lpm (19.8gpm)

1.2.10 Hydraulics (J)

1.2.10.1 Hoses

Type	Diameter	Working pressure	Test pressure	Burst pressure
2 SN-K “Semperpac 1” DIN 20022 Part 3	3/4”	3500 psi	7395 psi	14210 psi
R1 AT DIN 20022 Part 3	3/16”	3570 psi	8700 psi	14500 psi
	1/4”	3210 psi	7830 psi	13050 psi
	5/16”	3070 psi	7395 psi	12325 psi
	3/8”	2570 psi	6307 psi	10440 psi
	1/2”	2295 psi	5582 psi	9280 psi
	5/8”	1855 psi	4567 psi	7540 psi
	3/4”	1500 psi	3697 psi	6090 psi
	1”	1255 psi	3045 psi	5075 psi
	1 1/4”	900 psi	2175 psi	3625 psi
	1 1/2”	715 psi	1740 psi	2900 psi
	2”	570 psi	1392 psi	2320 psi
R2 AT DIN 20022 Part 4	3/16”	5930 psi	14355 psi	23925 psi
	1/4”	5710 psi	13920 psi	23200 psi
	5/16”	5000 psi	12180 psi	20300 psi
	3/8”	4710 psi	11527 psi	19140 psi
	1/2”	3930 psi	9570 psi	15950 psi
	5/8”	3570 psi	8700 psi	14500 psi
	3/4”	3070 psi	7395 psi	12325 psi
	1”	2355 psi	5655 psi	9425 psi
	1 1/4”	1785 psi	4350 psi	7250 psi
	1 1/2”	1285 psi	3190 psi	5220 psi
	2”	1140 psi	2827 psi	4640 psi


POWERSCREEN
A TEREX
COMPANY

Contents

2.1 Introduction

This instruction manual contains important information on how to operate the machine safely, properly and most efficiently. Observing these instructions helps to avoid danger, to reduce repair costs and downtimes and to increase the reliability and life of the machine.

The operating instructions must always be available wherever the machine is in use.

These operating instructions must be read and applied by any person in charge of and/ or working on the machine such as:

Operation
including setting up, troubleshooting during the course of work, evacuation of production waste, care and disposal of fuels and consumables.

Maintenance
(servicing, inspection, repair).

and/ or

Transport
Follow all applicable safety regulations for accident prevention and environmental protection.

2.2 General information

The H5163 which you have now received has been manufactured, assembled and tested with the utmost care and was built with first class materials.

Close attention has been paid to all details in assembly, running tests and final inspection.

We are confident that you have received a machine which will give you every satisfaction over a long period.

To be assured of faultless operation we would ask you to carefully read the following paragraphs and give the required time and attention to essential maintenance, cleaning and inspection.

The machine is simple to operate, adjustments are easy to make and expert assistance is seldom required, provided that ordinary care is exercised in daily use.

The machine has been built in accordance with state-of-the-art standards and recognised safety rules. It is designed to be reliable, efficient and safe when used and maintained in accordance with the instructions given in this manual.

2.2 General information

Nevertheless, its use may constitute a risk to life and limb of the user or of third parties, or cause damage to the machine and to other material property.

2.3 Designated use

The machine is designed exclusively as a self-contained mobile unit for screening materials into various sizes.

The material is deposited by the operator into the feed hopper.

The variable speed feeder delivers the material at the desired rate evenly on to the screenbox , where it is split into separate grades.

In order to operate the machine optimally for the respective application, several different screen mesh decks may be installed. Depending on the installed number of screen mesh decks the machine is able to screen out material of up to three different sizes.

Using the H5163 for uses not specified in this manual or approved by Powerscreen, will result in a loss of the guarantee and the manufacturer/ supplier cannot be held liable for any damage resulting from such use. The risk of such misuse lies entirely with the user.

2.4 Screening materials

Quarry Watse / Overburden
Sand & Gravel
Top Soil
Coal
Crushed Stone
Recycling
Demolition
Compost

NOTICE

If you need to process any material with theH5163 machine which is not on the above list, contact your local POWERSCREEN Dealer or POWERSCREEN Aftersales Depart-ment for advice.

If you have any doubts about any aspect of the machines capability or servicing procedures, you must consult your local POWERSCREEN Dealer or POWERSCREEN Aftersales Department.

2.5 © Copyright Powerscreen 2008

In line with our policy of continuous development of our products we reserve the right to alter the specifications given in this manual regarding any product and / or part thereof without notice.

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E-mail:aftersales@powerscreen.com

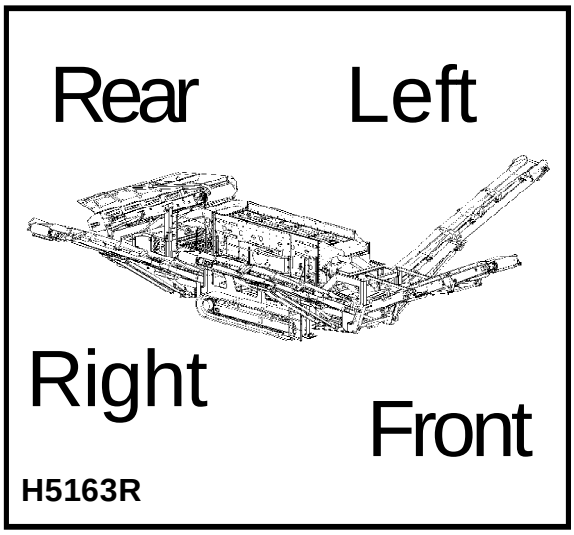
Contents

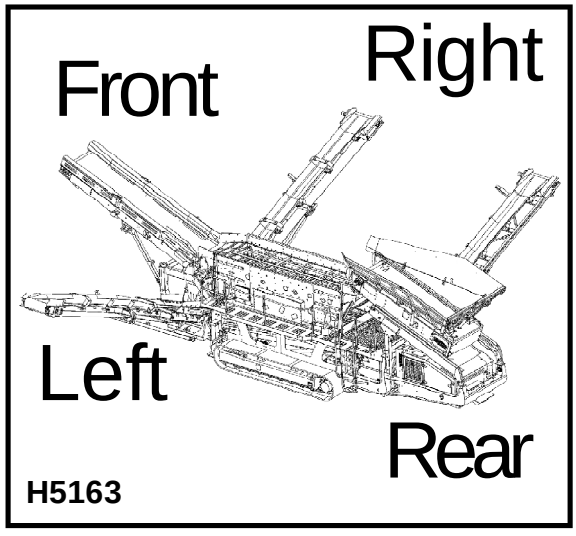
Contents

3.1 General Information

Left and Right hand

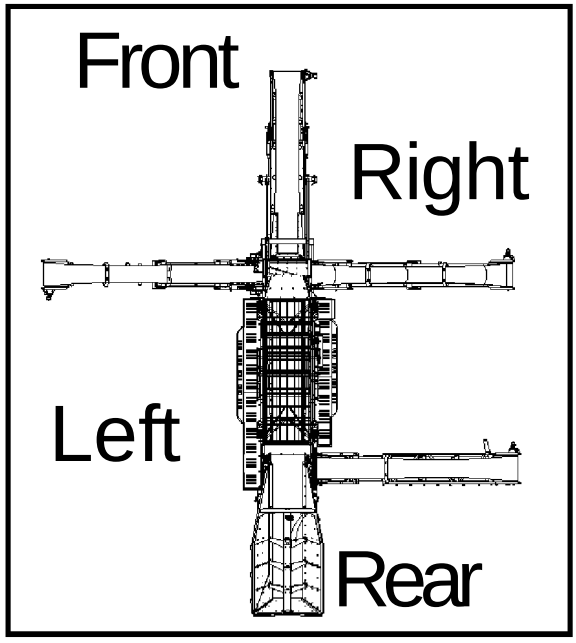
When using this handbook, at all times the right and the left hand references are viewed from the rear end of the machine.





Front and Rear

When using this handbook, at all times the rear of the machine is situated at the feed end.

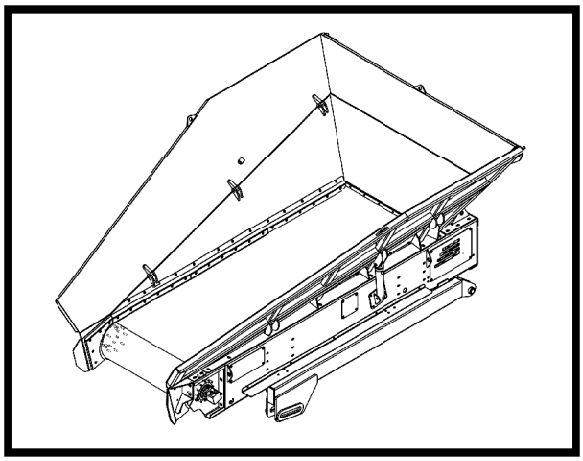


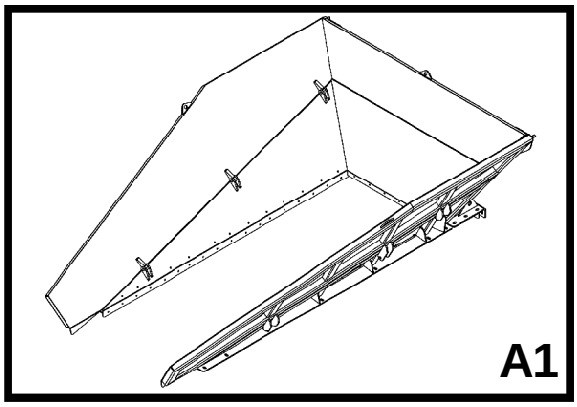
3.2 Construction units

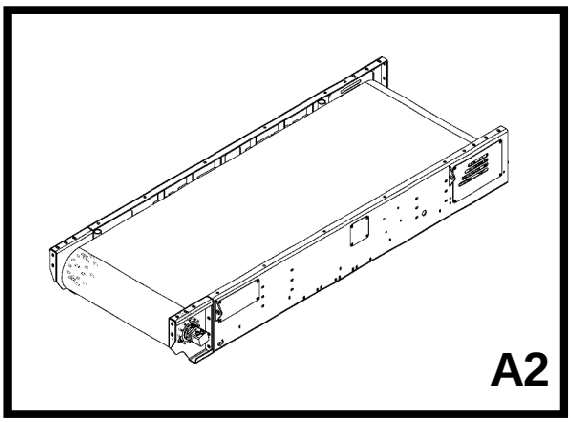
3.2.1 Feeder unit (A)

The feeder unit consists of 2 main components:

A1 Feed hopper
A2 Feeder conveyor







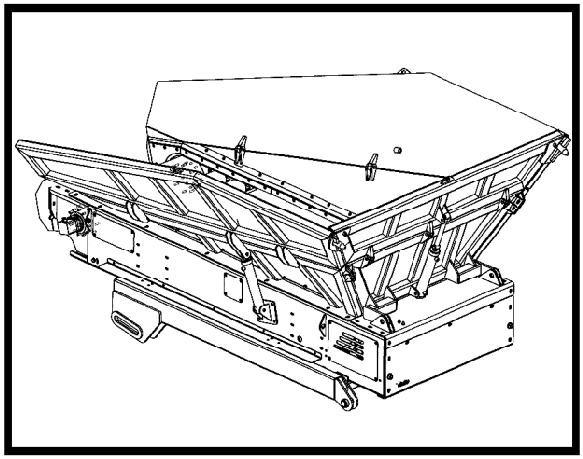
3.2.2 Construction units

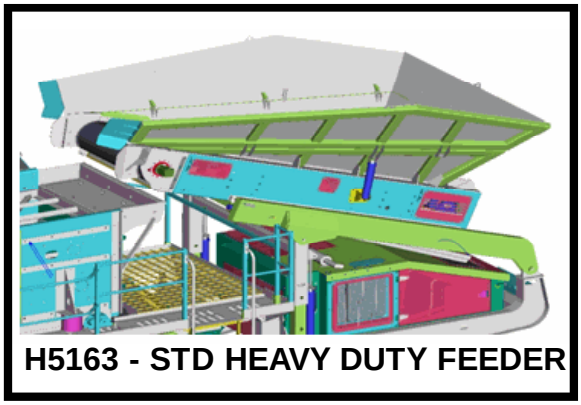
3.2.1.1 Feeder unit (A)

The apron feeder unit consists of 2 main components:

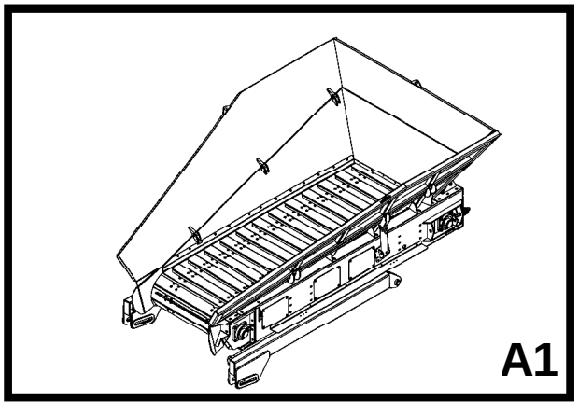
A1 Feed hopper

A2 Feeder conveyor

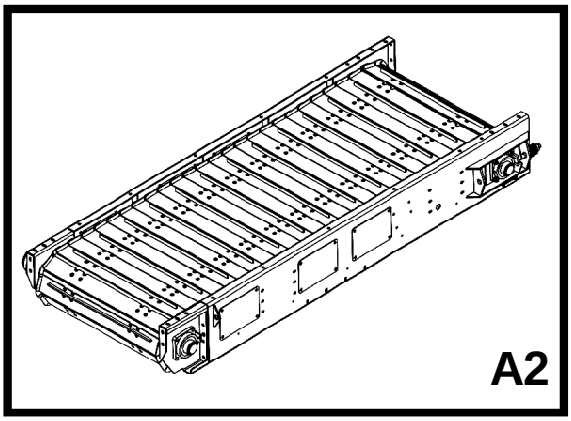




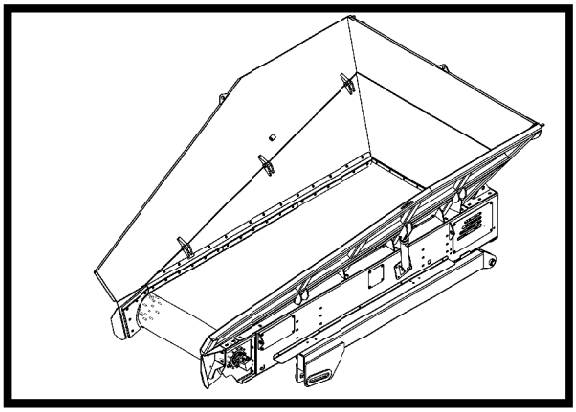
H5163 - STD HEAVY DUTY FEEDER



H5163 - INCLNE



3.2.1.2 Feedhopper (A1)



H5163 R

The feed hopper capacity is 4.33 cu.m (5.67 cu.yds,) with clamping arrangement for rubber skirts and is manufactured from hardox steel plate.

The wide belt allows steep hopper sides to minimise material build-up.

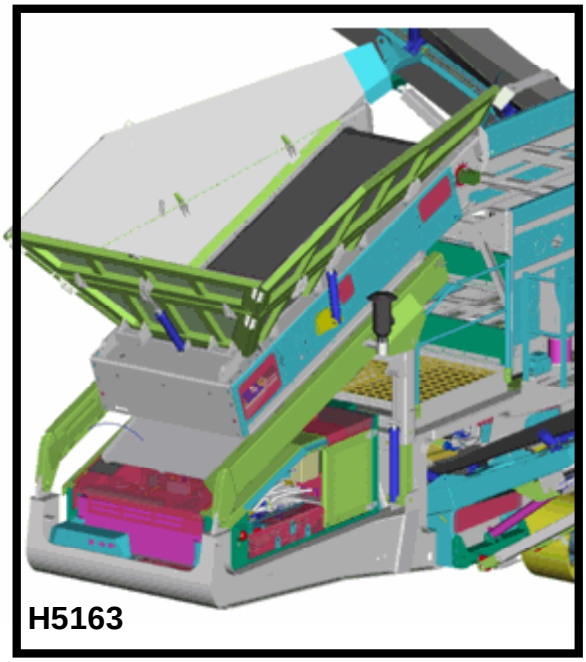
H5163R

H5163

The feed hopper capacity is 6.78 cu.m (8.87 cu.yds,) with clamping arrangement for rubber skirts and is manufactured from hardox steel replaceble plate panels.

The feed hopper is hydraulic folding for transport and fitted with impact protection bars.

The wide belt allows steep hopper sides to minimise material build-up.



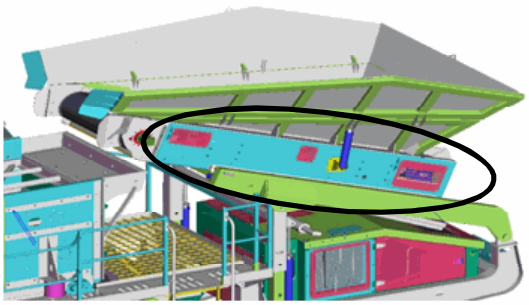
H5163

3.2.1.3 Feeder conveyor (A2)

The feeder conveyor is attached to the H5163`s hopper unit for the purpose of feeding material from the feed hopper on to the screen.

The feeder belt is driven by two hydraulic motors with two variable speed gearbox adjustment to determine the feed rate.

Belt tension adjustments are made outside of the guard doors.



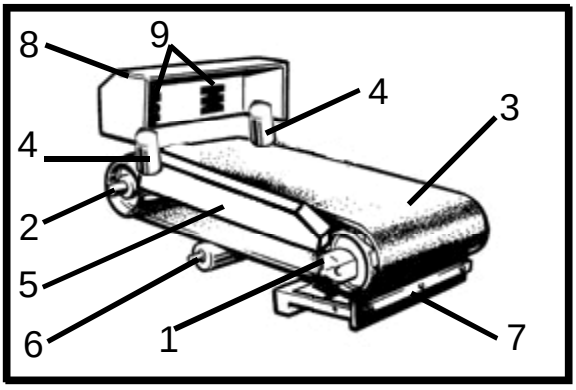
H5163 - A2

H5163 - INCLNE - A2

Conveyor belt assembly

The feeder conveyor belt assembly on all POWERSCREEN H5163 machines consists of :

1 Drive drum
2 Tail drum
3 Conveyor belting
4 Guide rollers
5 Impact bars
6 Impact rollers
7 Belt scrapers
8 Guarding
9 Viewing apertures



Belt performance

All conveyor belts and drum lagging on POWERSCREEN machines are made to the highest standards and are tough and durable.
However these are consumable items and will need to be replaced through normal wear and tear.

Spliced belts are less effective than vulcanized and have an increased tendency to slip.

Also a belt which has been adjusted to its maximum must be replaced with a new belt.

Worn lagging must also be replaced.

The correct procedure for changing a belt/lagging is to contact your local POWERSCREEN dealer who will either carry out the work himself or get it carried out by personnel trained in this field.

To ensure optimum performance and safety, the conveyor(s) must be:

1. Cleaned on a daily basis or more frequently depending on the application.
(For details contact your local POWERSCREEN dealer.)

2. Checked for cuts, tears, rips or any other physical damage.

3. Tensioned properly.

4. Kept in alignment.

Belt Tension

The belt will normally have to be tensioned a number of times during the belt‘s lifetime due to the natural stretching of the belt.

It is very important that the conveyor belt is tensioned evenly and to the correct level, not too tight and not too loose.

A loose belt can cause slippage, resulting in reduced throughput.

An over-tight belt can damage drum bearings, resulting in increased downtime.

Correct tension is obtained when no slippage occurs during normal use.

Belt alignment

For safe, proper and efficient operation of the machine, it is important that conveyor belts are properly aligned.

The belt alignment can be checked without removing any guard by looking through the viewing apertures.

The conveyor belts are aligned by adjusting the drum adjusters.

Reasons for the conveyor belts not running in alignment:

1. Machine not perfectly levelled.
2. Faulty belt tension.
3. Faulty position of the drums.

Solution refer to section“troubleshooting”

Belt Slippage

So long as the described maintenance procedures have been properly observed, your machine should not experience belt slippage.

Slippage occurs when the drum turns and the belt does not move.

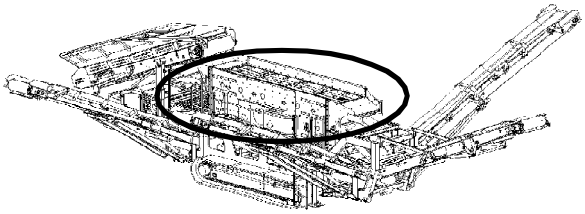
Slippage can occur for a number of reasons including:

1. Incorrectly tensioned belts
2. Worn belts.
3. Ineffective lagging.
4. Too much load on the belt.
5. Rollers cannot rotate freely.

Solution refer to Section“troubleshooting”

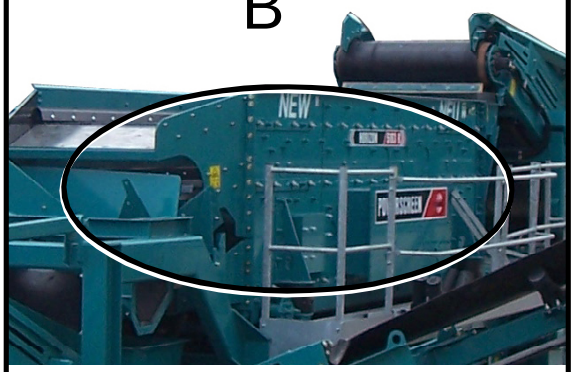
3.2.2 Screen unit (B)

The screen unit is attached at the end of the H5163`s feed conveyor where it screens raw material into different sizes.



REFER TO CEDARAPIDS MANUAL FOR FURTHER DETAILS.

B



H5163R

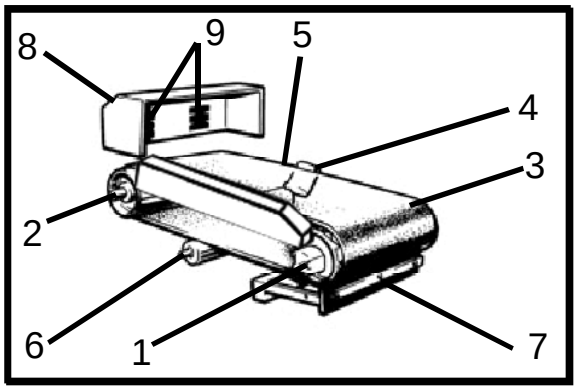
B

H5163

3.2.3 Tail conveyor (C)

The tail conveyor is attached to the H5163`s front chassis for the purpose of feeding the oversize material from the screen.

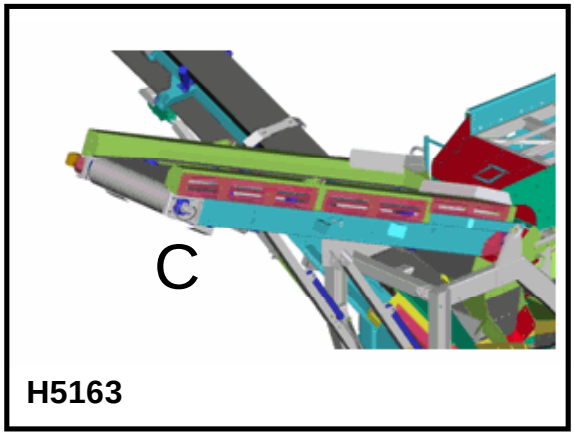
The tail conveyor belt is driven by a hydraulic motor.



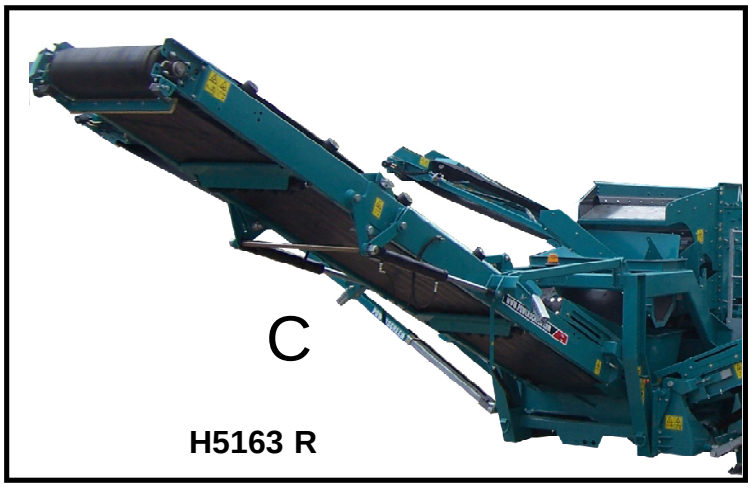
Conveyor belt assembly

The conveyor belt assemblies on all POWERSCREEN machines consists of:

1 Drive drum
2 Tail drum
3 Conveyor belting
4 Side rollers
5 Center rollers
6 Return disc rollers
7 Belt scrapers
8 Guarding
9 Viewing apertures



H5163



H5163 R

Belt performance

All conveyor belts and drum lagging on POWERSCREEN machines are made to the highest standards and are tough and durable.
However these are consumable items and will need to be replaced through normal wear and tear.

Spliced belts are less effective than vulcanized and have an increased tendency to slip.

Also a belt which has been adjusted to its maximum must be replaced with a new belt.

Worn lagging must also be replaced.

The correct procedure for changing a belt/lagging is to contact your local POWERSCREEN dealer who will either carry out the work himself or get it carried out by personnel trained in this field.

To ensure optimum performance and safety, the conveyor(s) must be:

1. Cleaned on a daily basis or more frequently depending on the application.
(For details contact your local POWERSCREEN dealer.)

2. Checked for cuts, tears, rips or any other physical damage.

3. Tensioned properly.

4. Kept in alignment.

Belt Tension

The belt will normally have to be tensioned a number of times during the belt's lifetime due to the natural stretching of the belt.

It is very important that the conveyor belt is tensioned evenly and to the correct level, not too tight and not too loose.

A loose belt can cause slippage, resulting in reduced throughput.

An over-tight belt can damage drum bearings, resulting in increased downtime.

Correct tension is obtained when no slippage occurs during normal use.

Belt alignment

For safe, proper and efficient operation of the machine, it is important that conveyor belts are properly aligned.

The belt alignment can be checked without removing any guard by looking through the viewing apertures.

The conveyor belts are aligned by adjusting the drum adjusters.

Reasons for the conveyor belts not running in alignment:

1. Machine not perfectly levelled.
2. Faulty belt tension.
3. Faulty position of the drums.

Solution refer to section troubleshooting.

Belt Slippage

So long as the described maintenance procedures have been properly observed, your machine should not experience belt slippage.

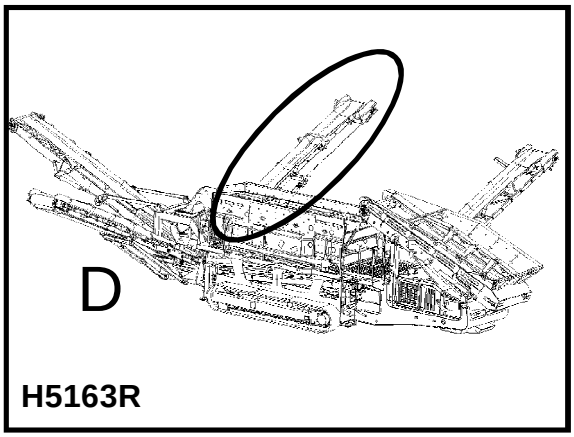
Slippage occurs when the drum turns and the belt does not move.

Slippage can occur for a number of reasons including:

1. Incorrectly tensioned belts
2. Worn belts.
3. Ineffective lagging.
4. Too much load on the belt.
5. Rollers cannot rotate freely.

Solution refer to section troubleshooting

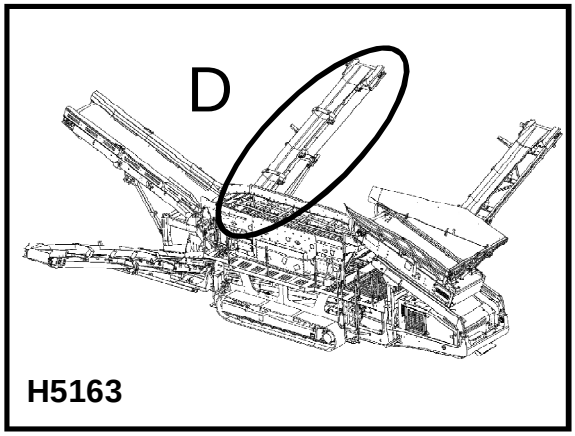
3.2.4 MID - FINES Side conveyor (D)



H5163R

The MID - FINES side conveyor is attached to the H5163`s front RHS chassis for the purpose of discharging material at 90º degrees to the screen unit. It is hydraulically opened and closed.

The side conveyor belt is driven by a hydraulic motor. For transport purposes the side conveyor is pinned into position. It includes a feedboot and incorporates head drum guarding. Belt tension adjustments can be made external to the guard doors.

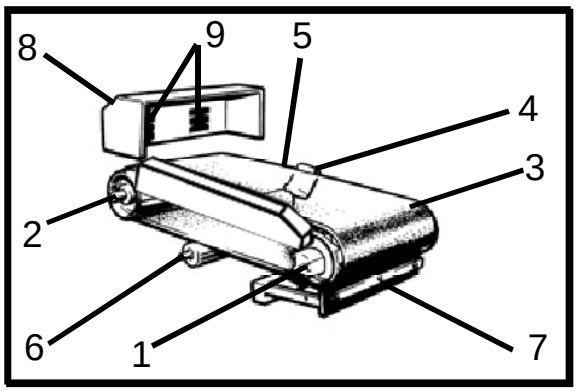


H5163

Conveyor belt assembly

The conveyor belt assemblies on all POWERSCREEN machines consists of:

1 Drive drum
2 Tail drum
3 Conveyor belting
4 Side rollers
5 Center rollers
6 Return disc rollers
7 Belt scrapers
8 Guarding
9 Viewing apertures



Belt performance

All conveyor belts and drum lagging on POWERSCREEN machines are made to the highest standards and are tough and durable.
However these are consumable items and will need to be replaced through normal wear and tear.

Spliced belts are less effective than vulcanized and have an increased tendency to slip.

Also a belt which has been adjusted to its maximum must be replaced with a new belt.

Worn lagging must also be replaced.

The correct procedure for changing a belt/lagging is to contact your local POWERSCREEN dealer who will either carry out the work himself or get it carried out by personnel trained in this field.

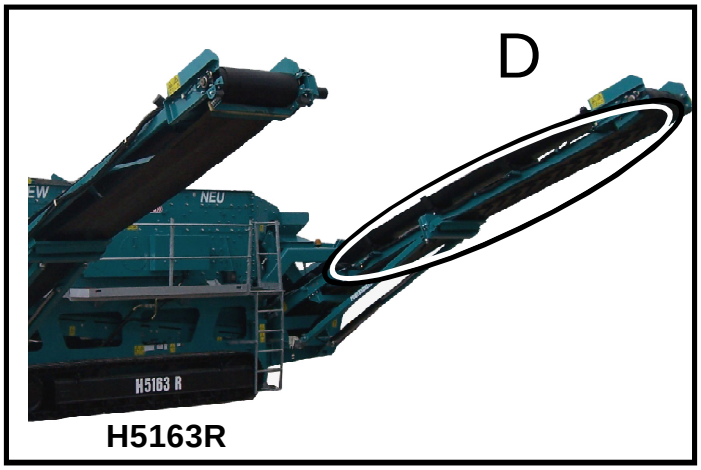
To ensure optimum performance and safety, the conveyor(s) must be:

1. Cleaned on a daily basis or more frequently depending on the application.
(For details contact your local POWERSCREEN dealer.)

2. Checked for cuts, tears, rips or any other physical damage.

3. Tensioned properly.

4. Kept in alignment.



H5163R

Belt Tension

The belt will normally have to be tensioned a number of times during the belt's lifetime due to the natural stretching of the belt.

It is very important that the conveyor belt is tensioned evenly and to the correct level, not too tight and not too loose.

A loose belt can cause slippage, resulting in reduced throughput.

An over-tight belt can damage drum bearings, resulting in increased downtime.

Correct tension is obtained when no slippage occurs during normal use.

Belt alignment

For safe, proper and efficient operation of the machine, it is important that conveyor belts are properly aligned.

The belt alignment can be checked without removing any guard by looking through the viewing apertures.

The conveyor belts are aligned by adjusting the drum adjusters.

Reasons for the conveyor belts not running in alignment:

1. Machine not perfectly levelled.
2. Faulty belt tension.
3. Faulty position of the drums.

Solution refer to section "Operating instructions," "troubleshooting."

Belt Slippage

So long as the described maintenance procedures have been properly observed, your machine should not experience belt slippage.

Slippage occurs when the drum turns and the belt does not move.

Slippage can occur for a number of reasons including:

1. Incorrectly tensioned belts
2. Worn belts.
3. Ineffective lagging.
4. Too much load on the belt.
5. Rollers cannot rotate freely.

Solution refer to Section "Operating instructions," "Troubleshooting."

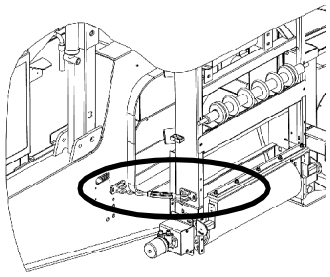
3.2.5 Fines - Side conveyor (E)

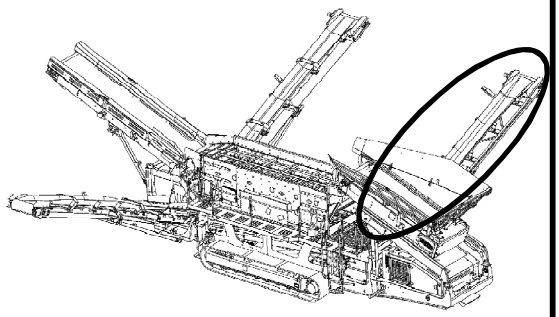
The side conveyor is attached to the H5163`s rear RHS chassis for the purpose of discharging material at 90° degrees to the screen unit. It is hydraulically opened and closed.

The side conveyor belt is driven by a hydraulic motor.

For transport purposes the side conveyor is pinned into position **(P).**

It includes a feedboot and incorporates head drum guarding.
Belt tension adjustments can be made external to the guard doors.





H5163

H5163 R

Belt performance

All conveyor belts and drum lagging on POWERSCREEN machines are made to the highest standards and are tough and durable.
However these are consumable items and will need to be replaced through normal wear and tear.

Spliced belts are less effective than vulcanized and have an increased tendency to slip.

Also a belt which has been adjusted to its maximum must be replaced with a new belt.

Worn lagging must also be replaced.

The correct procedure for changing a belt/lagging is to contact your local POWERSCREEN dealer who will either carry out the work himself or get it carried out by personnel trained in this field.

To ensure optimum performance and safety, the conveyor(s) must be:

1. Cleaned on a daily basis or more frequently depending on the application.
(For details contact your local POWERSCREEN dealer.)

2. Checked for cuts, tears, rips or any other physical damage.

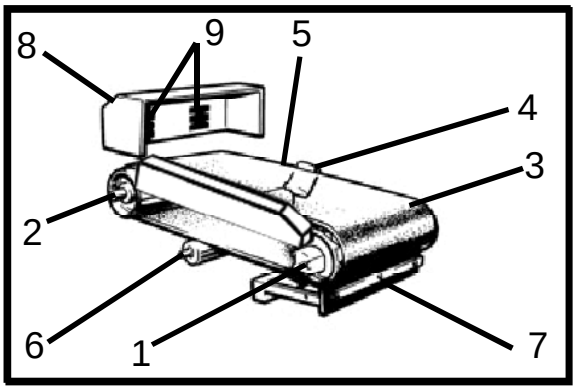
3. Tensioned properly.

4. Kept in alignment.

Conveyor belt assembly

The conveyor belt assemblies on all POWERSCREEN machines consists of:

1 Drive drum
2 Tail drum
3 Conveyor belting
4 Side rollers
5 Center rollers
6 Return disc rollers
7 Belt scrapers
8 Guarding
9 Viewing apertures



Belt Tension

The belt will normally have to be tensioned a number of times during the belt's lifetime due to the natural stretching of the belt.

It is very important that the conveyor belt is tensioned evenly and to the correct level, not too tight and not too loose.

A loose belt can cause slippage, resulting in reduced throughput.

An over-tight belt can damage drum bearings, resulting in increased downtime.

Correct tension is obtained when no slippage occurs during normal use.

Belt alignment

For safe, proper and efficient operation of the machine, it is important that conveyor belts are properly aligned.

The belt alignment can be checked without removing any guard by looking through the viewing apertures.

The conveyor belts are aligned by adjusting the drum adjusters.

Reasons for the conveyor belts not running in alignment:

1. Machine not perfectly levelled.
2. Faulty belt tension.
3. Faulty position of the drums.

Solution refer to section troubleshooting

Belt Slippage

So long as the described maintenance procedures have been properly observed, your machine should not experience belt slippage.

Slippage occurs when the drum turns and the belt does not move.

Slippage can occur for a number of reasons including:

1. Incorrectly tensioned belts
2. Worn belts.
3. Ineffective lagging.
4. Too much load on the belt.
5. Rollers cannot rotate freely.

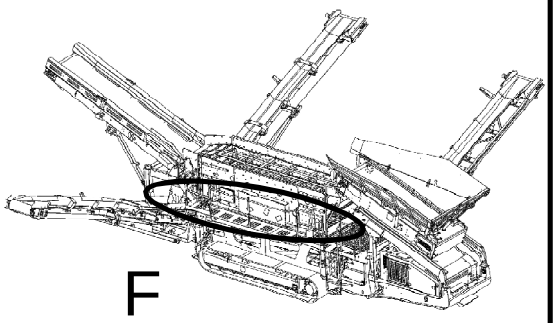
Solution refer to Section Troubleshooting

3.2.6 Collection conveyor (F)

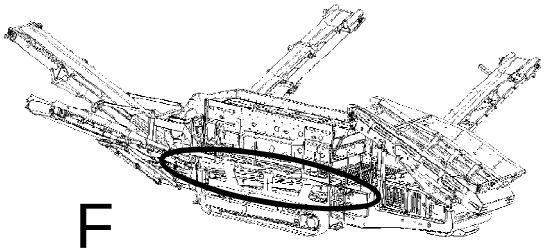
The collection conveyor is attached to the H5163`s chassis for the purpose of feeding material from the screen unit to the fines side conveyor.

The collection conveyor belt is driven by a hydraulic motor.

Belt tension adjustments can be made outside of the guard doors.



H5163



H5163R

Collection conveyor (F)

Belt performance

All conveyor belts and drum lagging on POWERSCREEN machines are made to the highest standards and are tough and durable.
However these are consumable items and will need to be replaced through normal wear and tear.

Spliced belts are less effective than vulcanized and have an increased tendency to slip.

Also a belt which has been adjusted to its maximum must be replaced with a new belt.

Worn lagging must also be replaced.

The correct procedure for changing a belt/lagging is to contact your local POWERSCREEN dealer who will either carry out the work himself or get it carried out by personnel trained in this field.

To ensure optimum performance and safety, the conveyor(s) must be:

1. Cleaned on a daily basis or more frequently depending on the application.
(For details contact your local POWERSCREEN dealer.)

2. Checked for cuts, tears, rips or any other physical damage.

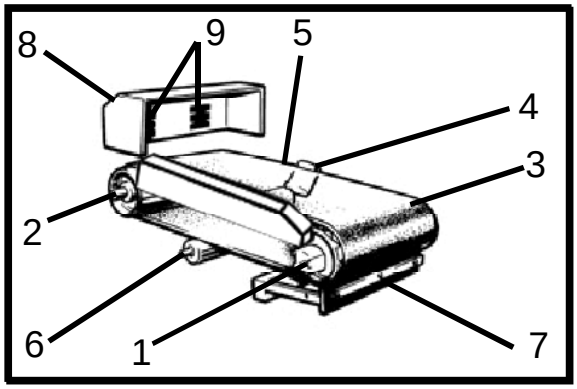
3. Tensioned properly.

4. Kept in alignment.

Collection conveyor belt assembly

The conveyor belt assemblies on all POWERSCREEN machines consists of :

1 Drive drum
2 Tail drum
3 Conveyor belting
4 Side Rollers
5 Center rollers
6 Return rollers
7 Belt scrapers
8 Guarding
9 Viewing apertures



Belt Tension

The belt will normally have to be tensioned a number of times during the belt‘s lifetime due to the natural stretching of the belt.

It is very important that the conveyor belt is tensioned evenly and to the correct level, not too tight and not too loose.

A loose belt can cause slippage, resulting in reduced throughput.

An over-tight belt can damage drum bearings, resulting in increased downtime.

Correct tension is obtained when no slippage occurs during normal use.

Belt alignment

For safe, proper and efficient operation of the machine, it is important that conveyor belts are properly aligned.

The belt alignment can be checked without removing any guard by looking through the viewing apertures.

The conveyor belts are aligned by adjusting the drum adjusters.

Reasons for the conveyor belts not running in alignment:

1. Machine not perfectly levelled.
2. Faulty belt tension.
3. Faulty position of the drums.

Solution refer to section Troubleshooting

Belt Slippage

So long as the described maintenance procedures have been properly observed, your machine should not experience belt slippage.

Slippage occurs when the drum turns and the belt does not move.

Slippage can occur for a number of reasons including:

1. Incorrectly tensioned belts
2. Worn belts.
3. Ineffective lagging.
4. Too much load on the belt.
5. Rollers cannot rotate freely.

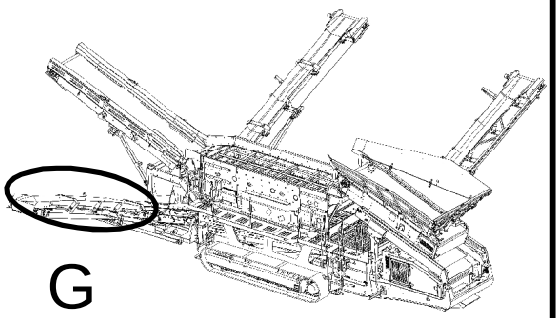
Solution refer to Section Troubleshooting

3.2.7 LHS Side Conveyor (G)

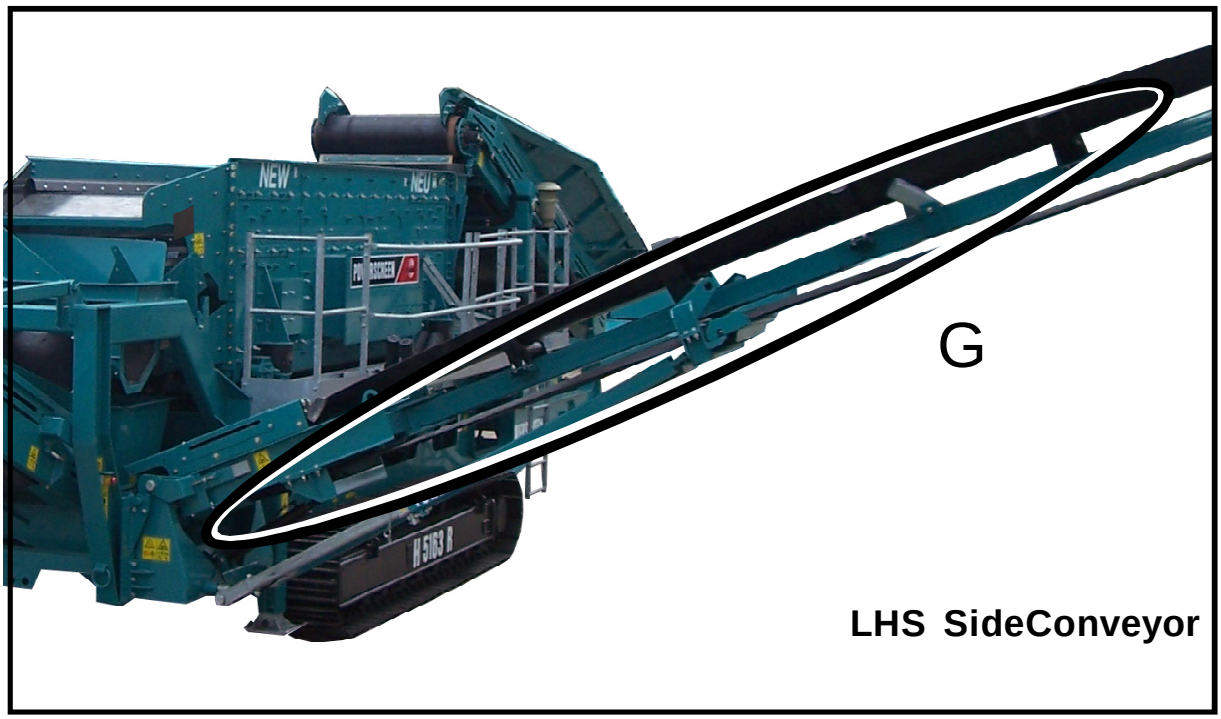
The OVERSIZE conveyor is attached to the H5163's chassis LHS front side for the purpose of discharging oversize material from the machine.

The conveyor belt is driven by a hydraulic motor.

Belt tension adjustments can be made outside of the guard doors.



H5163



LHS SideConveyor

Belt performance

All conveyor belts and drum lagging on POWERSCREEN machines are made to the highest standards and are tough and durable.
However these are consumable items and will need to be replaced through normal wear and tear.

Spliced belts are less effective than vulcanized and have an increased tendency to slip.

Also a belt which has been adjusted to its maximum must be replaced with a new belt.

Worn lagging must also be replaced.

The correct procedure for changing a belt/lagging is to contact your local POWERSCREEN dealer who will either carry out the work himself or get it carried out by personnel trained in this field.

To ensure optimum performance and safety, the conveyor(s) must be:

1. Cleaned on a daily basis or more frequently depending on the application.
(For details contact your local POWERSCREEN dealer.)

2. Checked for cuts, tears, rips or any other physical damage.

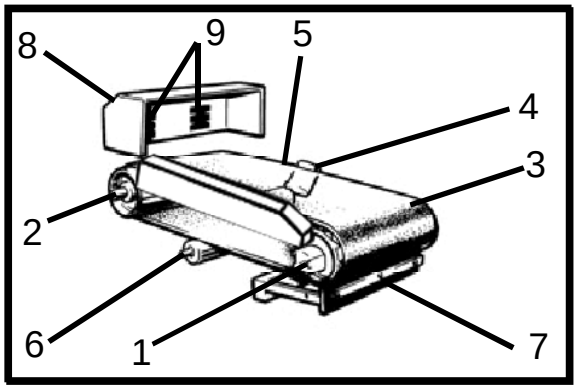
3. Tensioned properly.

4. Kept in alignment.

Oversize Conveyor belt assembly

The conveyor belt assemblies on all POWERSCREEN machines consists of:

1 Drive drum
2 Tail drum
3 Conveyor belting
4 Side rollers
5 Center rollers
6 Return disc rollers
7 Belt scrapers
8 Guarding
9 Viewing apertures



Belt Tension

The belt will normally have to be tensioned a number of times during the belt's lifetime due to the natural stretching of the belt.

It is very important that the conveyor belt is tensioned evenly and to the correct level, not too tight and not too loose.

A loose belt can cause slippage, resulting in reduced throughput.

An over-tight belt can damage drum bearings, resulting in increased downtime.

Correct tension is obtained when no slippage occurs during normal use.

Belt alignment

For safe, proper and efficient operation of the machine, it is important that conveyor belts are properly aligned.

The belt alignment can be checked without removing any guard by looking through the viewing apertures.

The conveyor belts are aligned by adjusting the drum adjusters.

Reasons for the conveyor belts not running in alignment:

1. Machine not perfectly levelled.
2. Faulty belt tension.
3. Faulty position of the drums.

Solution refer to section Troubleshooting

Belt Slippage

So long as the described maintenance procedures have been properly observed, your machine should not experience belt slippage.

Slippage occurs when the drum turns and the belt does not move.

Slippage can occur for a number of reasons including:

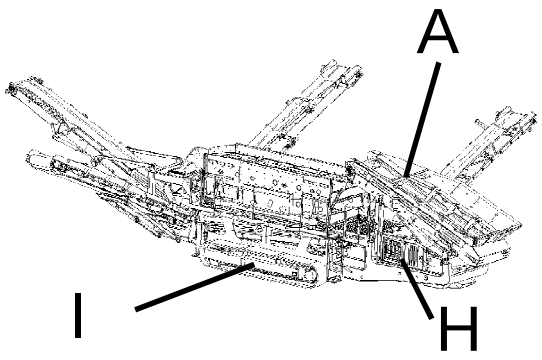
1. Incorrectly tensioned belts
2. Worn belts.
3. Ineffective lagging.
4. Too much load on the belt.
5. Rollers cannot rotate freely.

Solution refer to Section Troubleshooting

3.2.8 Power unit (H)

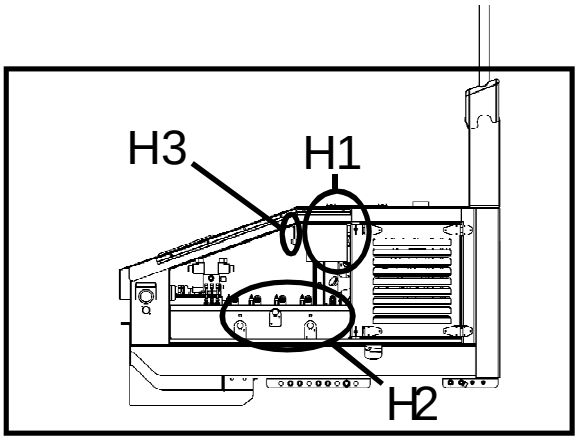
The power unit (H) is attached at the chassis (I) of the H5163, under the feeder conveyor (A.)

The power unit is completely enclosed, sound suppressed and lockable.



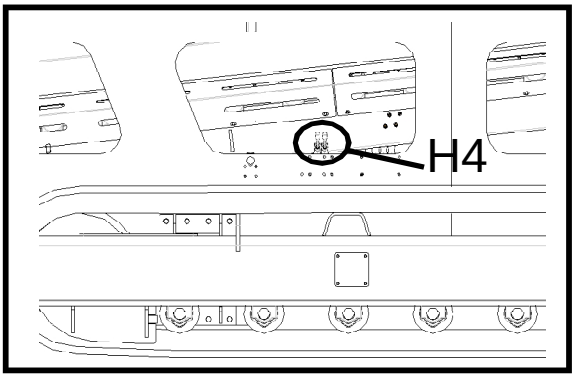
Power unit (H)

3.2.8 Power unit (H)



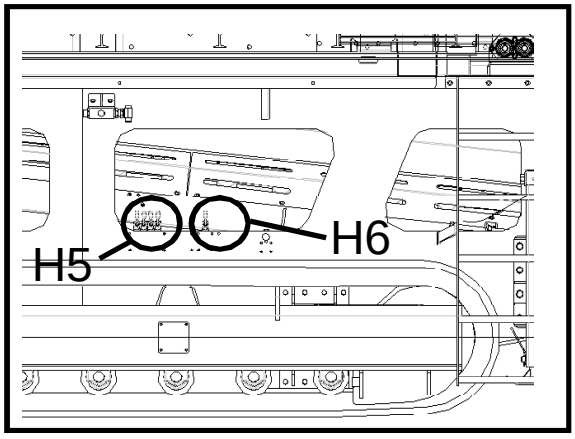
The H5163 has NINE control units.

The control panel	(H1)
The control valve unit	(H2)
Hand throttle	(H3)
Tail	(H4)
Jacking Legs	(H5)
Mid-fines valve unit	(H6)
Radio control	(H7)
Remote control	(H8)



The control panel H1, control valve unit H2 and hand throttle H3 are situated at the powerunit on the right hand side of the machine.

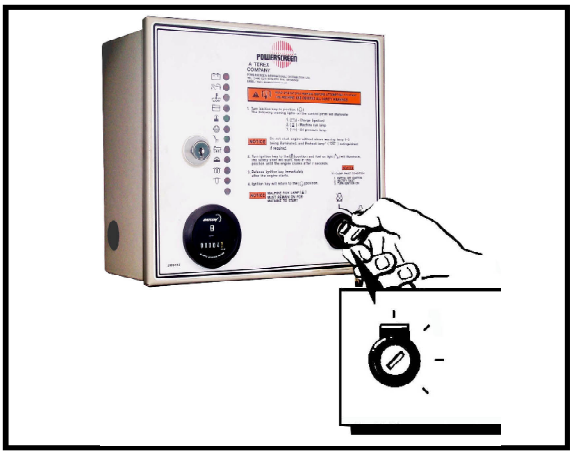
The control valves (H4) are situated on the LHS of the machine.



The control valves (H5+ H6) are situated on the RHS of the machine.

The controls (H7 & H8) are independant control units.
They control the movement of the tracks.
They are described in more detail at the end of this section.

3.2.8.1 Control Panel (H1) Main control panel warning lights



Battery Charging Warning Light

This light should illuminate when the key switch is turned to the On poition.
As soon as the engine starts it should go out. If it fails to illuminate when the key is turned on, or if it illuminates when the engine is running, it indicates that there is a fault in the charging circuit. Stop the engine and have the circuit checked.

Engine Run light

This light will only illuminate when the key is turned to the ON position and will remain on at all times. If it goes out then an E-Stop has been pressed and the engine will shut down immediately.

Air breather Restriction Warning Light.

This light should illuminate if a problem occurs in the air breather system. If the AIR FILTER OVERRIDE link on the main control panel is in, then the light will remain on continuously until the fault has been repaired. IF the AIR FILTER OVERRIDE link is out and it continues to recieve a fault signal , the light will remain on for 30 minutes. After 30 minutes the engine will shut down but the light will remain on until the fault has been repaired.

Fuel On Light

This light should illuminate when the engine starts and will remain on at all times. It will go out when the engine has been shut down.

Hydraulic Oil level Warning Light

This light will only illuminate if the hydraulic oil level is low. The engine will shut down 5 seconds after the fault has been detected.

3.2.8.1 Control Panel (H1) Main control panel warning lights (Continued)

E-Stop Activated Light

This light will only illuminate when an E-Stop has been pressed. This will immediately shut down the engine. If the light is flashing after shut down, this indicates that the manual tracking doglead E-Stop has been pressed. If the light remians on constantly then another E-Stop has been pressed.

Engine Pre-heat Indicator Light

This light only illuminates when the pre-heat button is operated during start up.

Fuel Contamination Warning Light

This light will only illuminate if a problem occurs in the fuel system, such as water contamination. The engine will shut down 1 second after the fault has been detected.

Hour Clock

This reords the numbr of hours that the engine has been running.

Key Start Switch

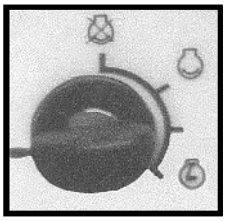
This is used to start the engine when required.

ENGINE PRE-HEAT

If an engine pre-heat sequence was installed to the control panel during manufacture, it will be either automatic or manual.

If it is automatic then the pre-heat light (H) will illuminate when the key is turned to the start position (C). The engine will crank automatically once the pre-heat operation has been completed and the light will go out.

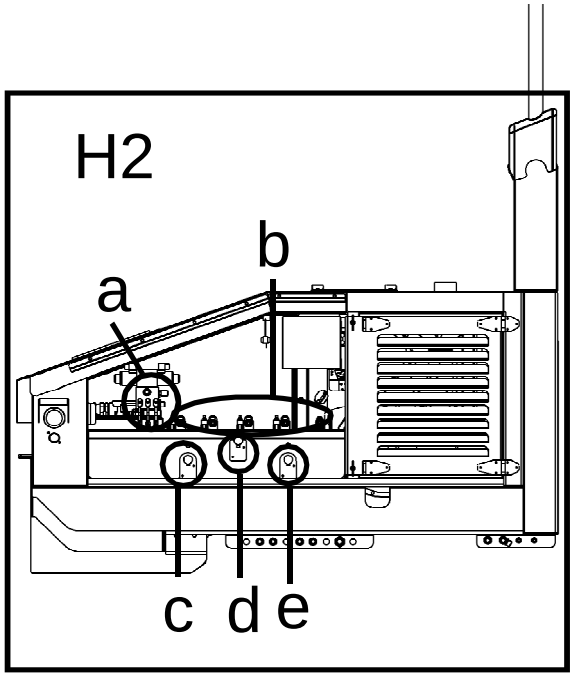
If manual pre-heat has been fitted then the light will illuminate when the key is turned to the pre-heat position (G). The light will extinguish after the pre-heat operation has been completed and the key can be turned to the start position (C) to crank the engine.



C

H. Engine Pre-Heater Indicator Light

3.2.8.2 Control valve unit (H2)



The levers of the drive control unit, are for the purpose of driving the machine.

a) Auxiliary control bank
b) Drive control bank

with FOUR additional control valves,

c) Variable speed flow control valve for feeder conveyor

d) Variable speed flow control valve for tail conveyor.

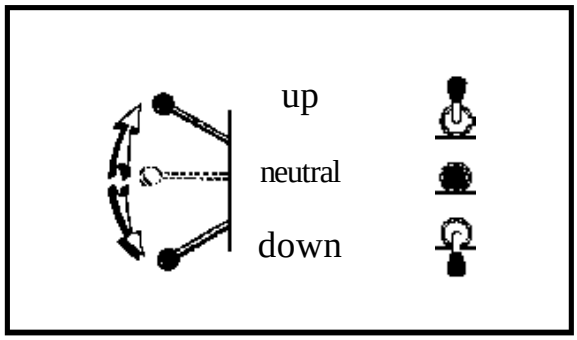
e) Variable speed flow control valve for the collection conveyor.

f) Variable speed flow control valve for the fines conveyor is on the fines conveyor.

Note: that all control valve levers are labelled on the machine.

Symbols for the levers

In the manual the following symbols are used to show the position (up, neutral, down) of the levers.



a) Auxiliary control bank

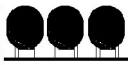
The auxiliary control bank performs:

(1) Feeder angle
RAISE: A
LOWER: a

(2) Feeder Conveyor
RAISE B
LOWER b

(3) Fines Conveyor
FOLD IN C
FOLD OUT c

Auxiliary control

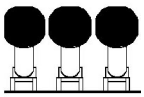


(1)(2)(3)

Neutral

H2 a

Auxiliary control

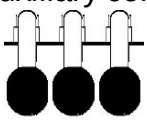


(1)(2)(3)

Raising

H2 a

Auxiliary control



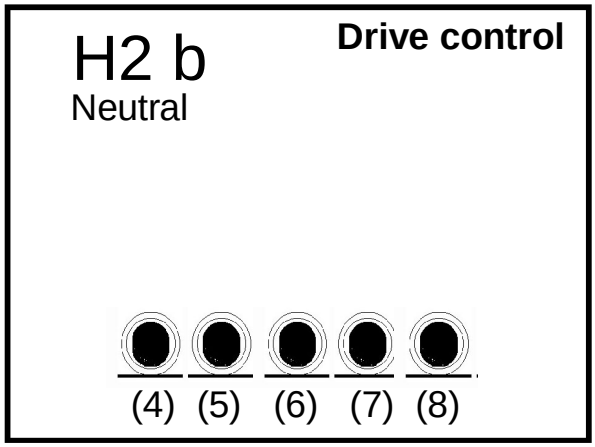
(1)(2)(3)

Lowering

H2 a

b) Drive control bank

The drive control bank performs the following function:



Engaging/stopping the drive

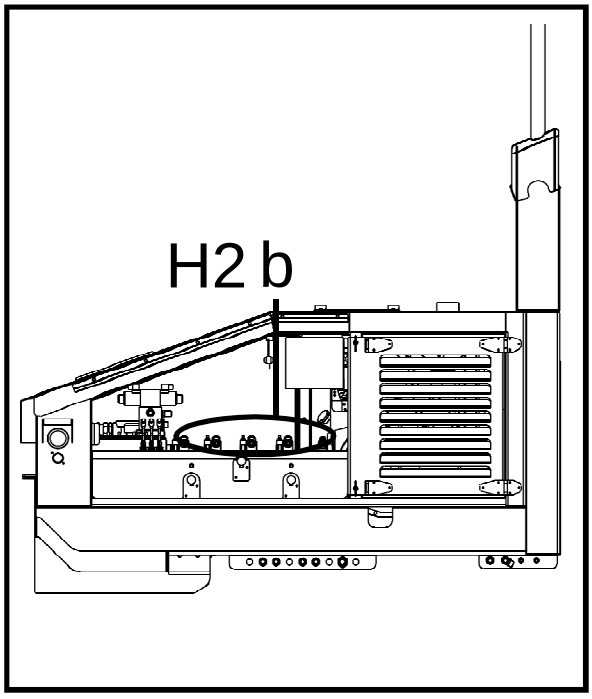
(4) Feeder Conveyor

Drive: +
Stop: NEUTRAL
Engage: Tracks
Stop: NEUTRAL

(5) Tail conveyor
Drive: +
Stop: NEUTRAL

(6) Screenbox + Fines Conveyor
Drive: +
Stop: NEUTRAL

(7) Collection
Drive: +
Stop: NEUTRAL
Engage: Tracks
Stop: NEUTRAL



H5163

(8) Mid Oversize / Mid fines
Drive: +
Stop: NEUTRAL

H5163R

(8) Oversize / Mid fines
Drive: +
Stop: NEUTRAL

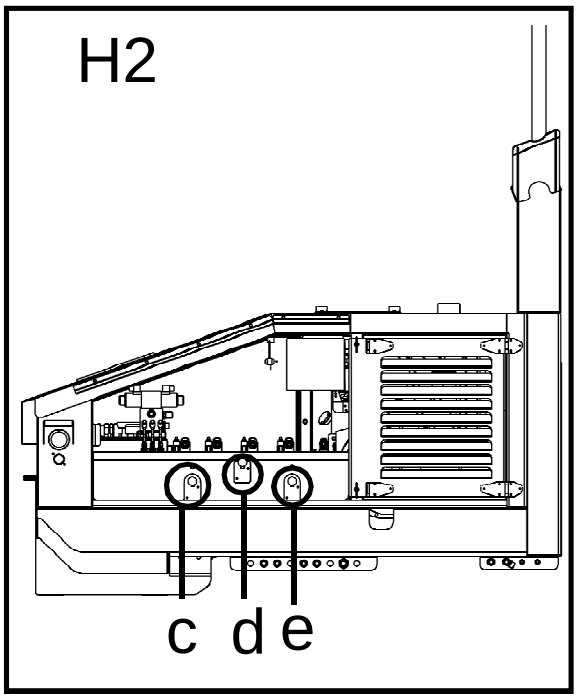
} **Conveyors controlled by this lever are equipped with a 10 second start delay and warning siren**

c) Variable speed flow control

The variable speed flow control valve (c,) controls the speed of feeder conveyor when the conveyor control valve is engaged **(H2b - lever 4)**.

Rotating clockwise (R,) decreases the speed of the conveyor.

Rotating counter clockwise (L,) increases the speed of the conveyor.



d) Variable speed flow control

The variable speed flow control valve (d,) controls the speed of tail conveyor when the tail conveyor control valve is engaged **(H2b - lever 5)**.

Rotating clockwise (R,) decreases the speed of the side conveyor.

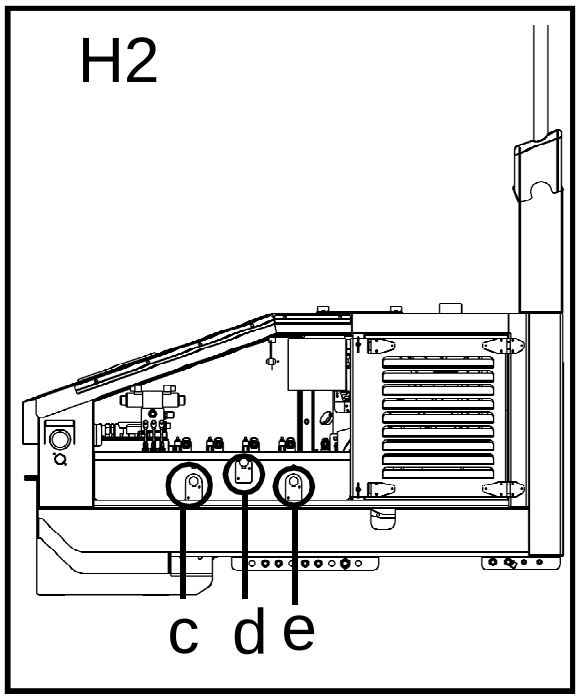
Rotating counter clockwise (L,) increases the speed of the side conveyor.

e) Variable speed flow control

The variable speed flow control valve (e,) controls the speed of collection conveyor when the conveyor control valve is engaged **(H2b - lever 7)**.

Rotating clockwise (R,) decreases the speed of the conveyor.

Rotating counter clockwise (L,) increases the speed of the conveyor.



3.2.8.3 Hand Throttle (H3)

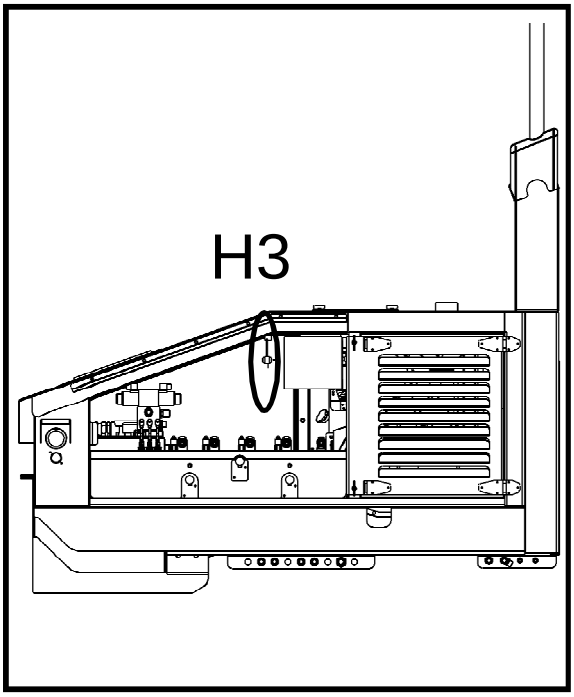
The hand throttle has two functions:

Increasing/decreasing the engine speed.

(1) Hand throttle (HT,)

Increase power:
pull to right of the operator.

Decrease power:
pull to left of the operator.

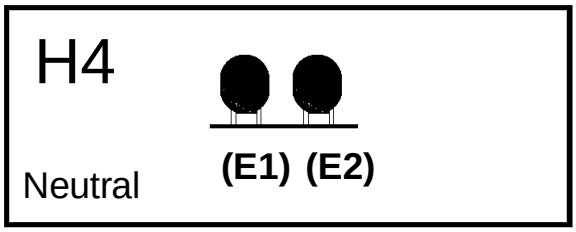


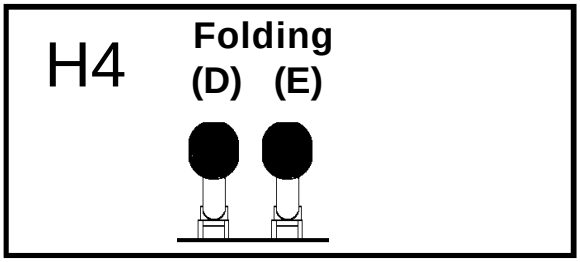
3.2.8.4 Control valve unit (H4)

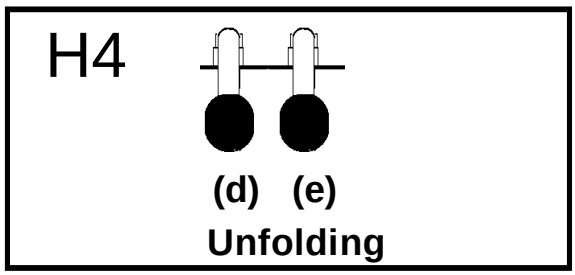
The OVERSIZE side and tail conveyor control valve unit (H4) is situated on the LEFT hand side, at the front of the machine.

(E1) Tail conveyor head section
RAISE: D
LOWER: d

(E2) Oversize side conveyor
RAISE: E
LOWER: e





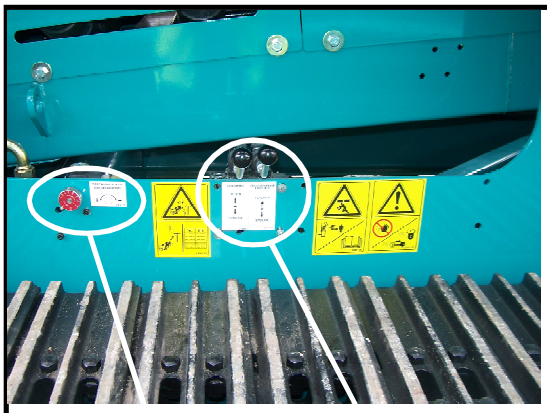


f) Variable speed flow control

The variable speed flow control valve (e,) controls the speed of oversize conveyor when the conveyor control valve is engaged (5).

Rotating clockwise (R,) decreases the speed of the conveyor.

Rotating counter clockwise (L,) increases the speed of the conveyor.



H4 f

H4 E

H4

3.2.8.5 Control valve unit (H5)

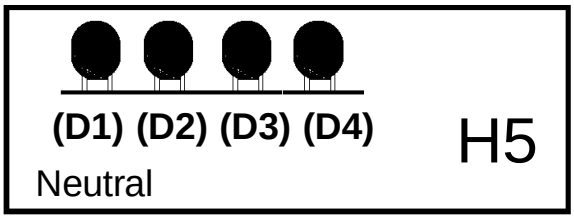
The jacking legscontrol valve unit (H5) is situated on the right hand side, at the centre of themachine.

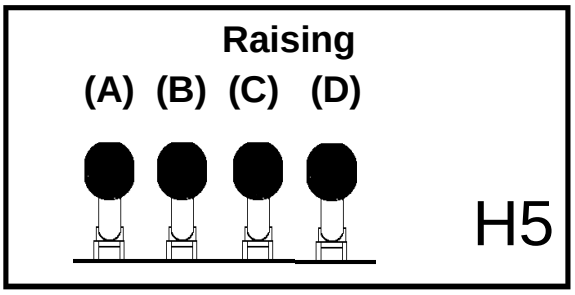
(D1) LH Rear Jacking Leg
RAISING: A
LOWERING: a

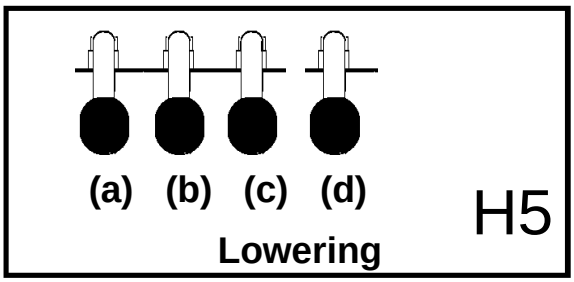
(D2) RH Rear Jacking Leg
RAISING: B
LOWERING: b

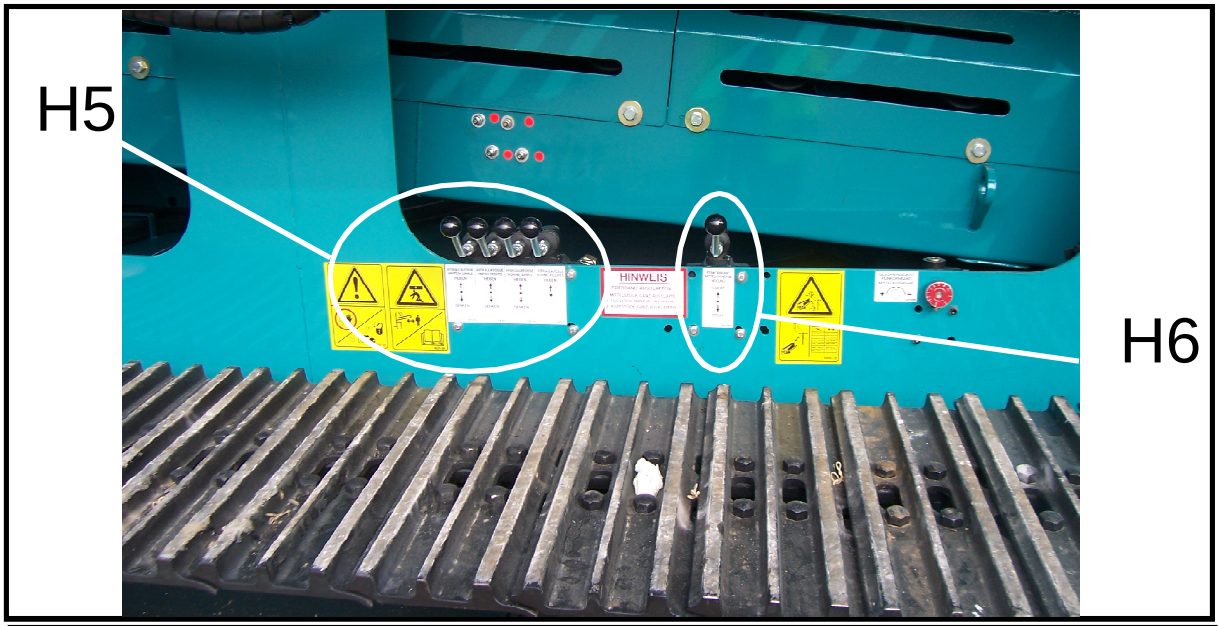
(D3) RH Front Jacking Leg
RAISING: C
LOWERING: c

(D4) LH Front Jacking Leg
RAISING: D
LOWERING: d









3.2.8.6 Control valve unit (H6)

The mid fines conveyor control valve unit (H6) is situated on the left hand side, at the front of the machine.

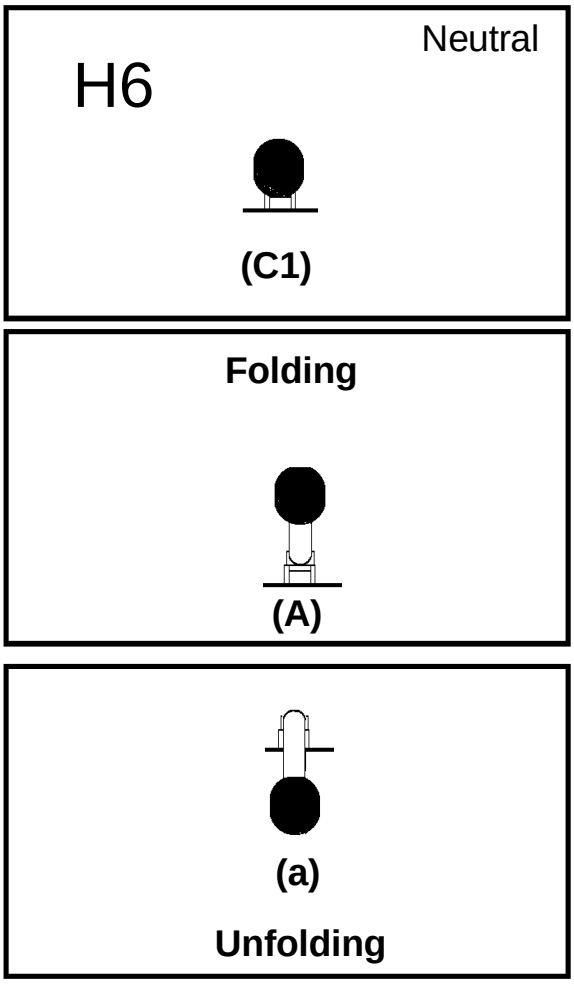
(C1) Mid Fines Conveyor
RAISE : A
LOWER: a

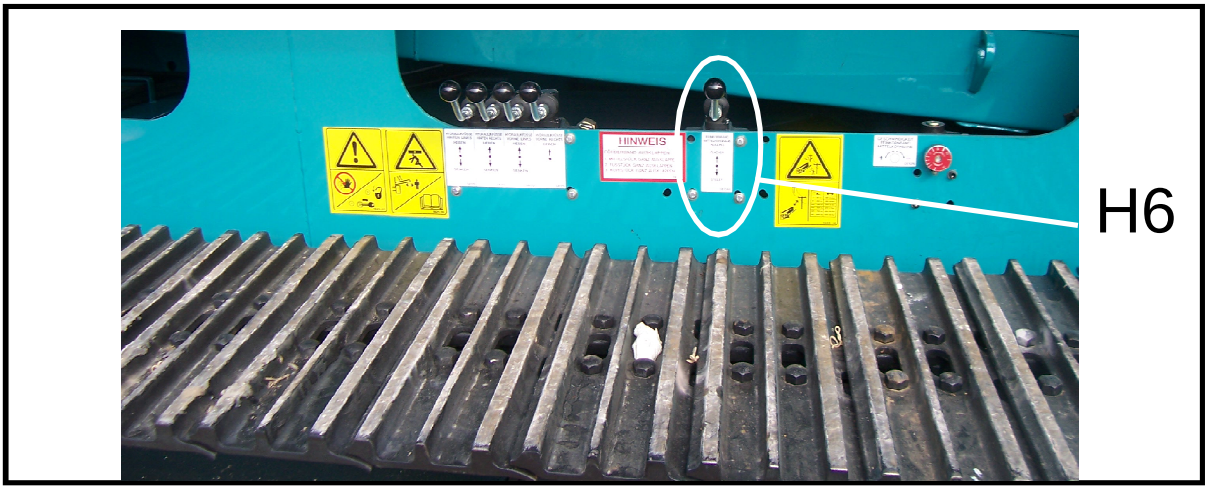
g) Variable speed flow control

The variable speed flow control valve (g,) controls the speed of mid fines conveyor when the conveyor control valve is engaged (6).

Rotating clockwise (R,) decreases the speed of the conveyor.

Rotating counter clockwise (L,) increases the speed of the conveyor.





3.2.8.7 Radio Control (H7)

The radio control unit consists of a receiver and a hand-held, battery powered radio control unit.
It is fitted to track machines as an option.

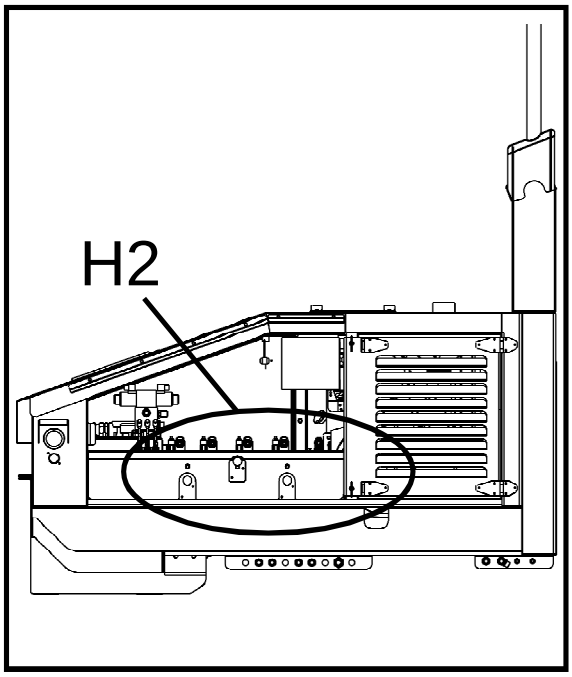
To operate the radio control push;

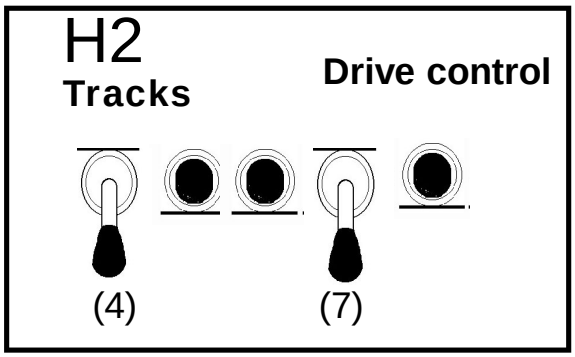
(1) move the two track levers of the drive control **(H2 - Lever 4 + 7)** down fully.

(2) To start remote tracking disconnect the manual handset from the machine and press any button on the transmitter.

After the 7 second delay has elapsed the track directional switches become active.

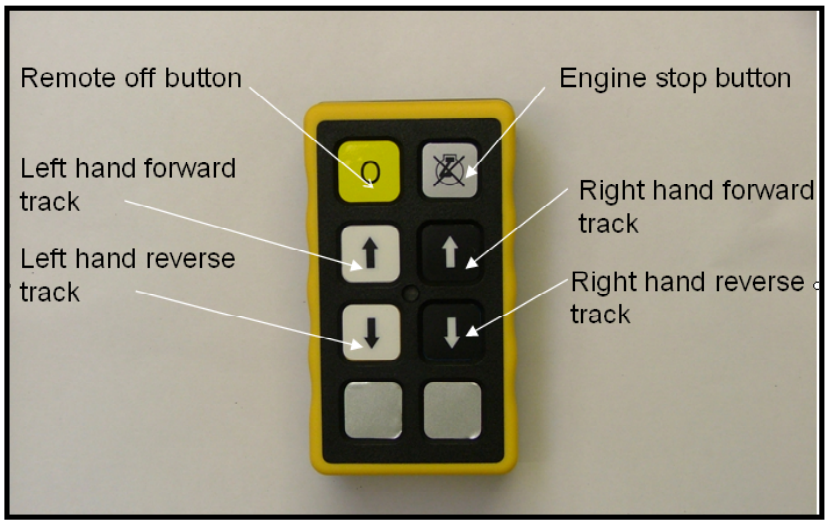
Find the explanation of the hand-held radio control unit on the following pages.





3.2 Construction units

3.2.8.7 Radio Control (H7)



To start remote tracking disconnect the manual handset from the machine and press any button on the transmitter.

After the 7 second delay has elapsed the track directional switches become active.

3.2.8.8 Remote control (H8) (in conjunction with the radio control)

The remote control unit consists of a hand-held direct lead.

To operate the radio control;

(1) attach the hand remote control unit (RU,) to socket (S.)

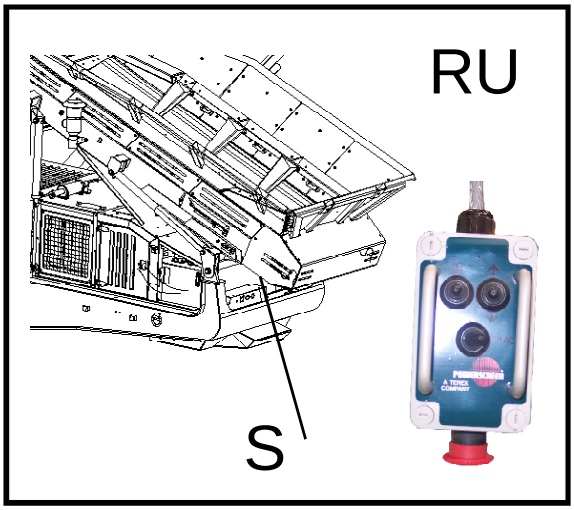
(2) push the two levers of the drive control (H2,) **(H2 - Lever 4 + 7)** down fully.

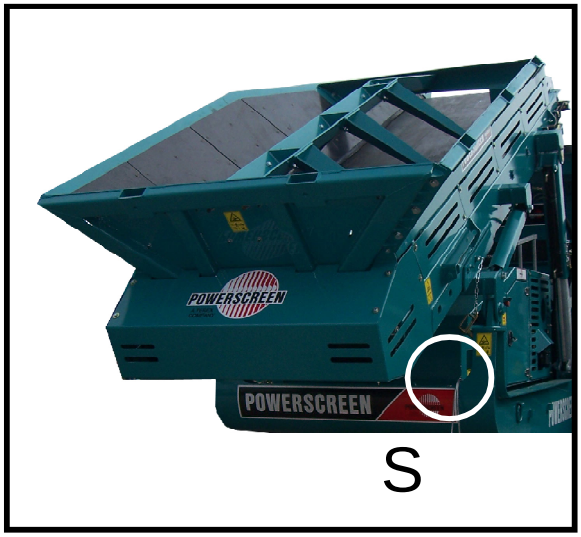
(3) Push the “tracks” button (1,) to the left, auxiliary/tracks

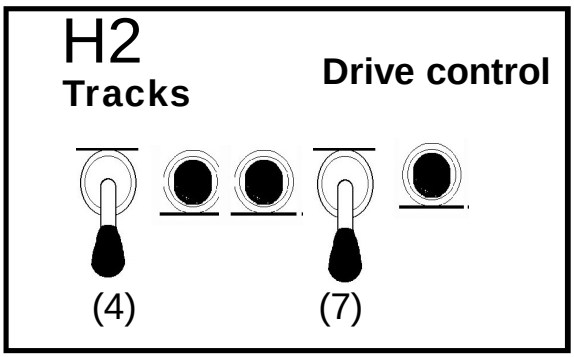
Find the explanation of the hand-held remote control unit on the following pages.

NOTICE

The remote control is only used to operate the tracks.
It performs no other operation.







Hand-held remote control unit (H8)

Tracking using the Hand-held remote control unit (H7)

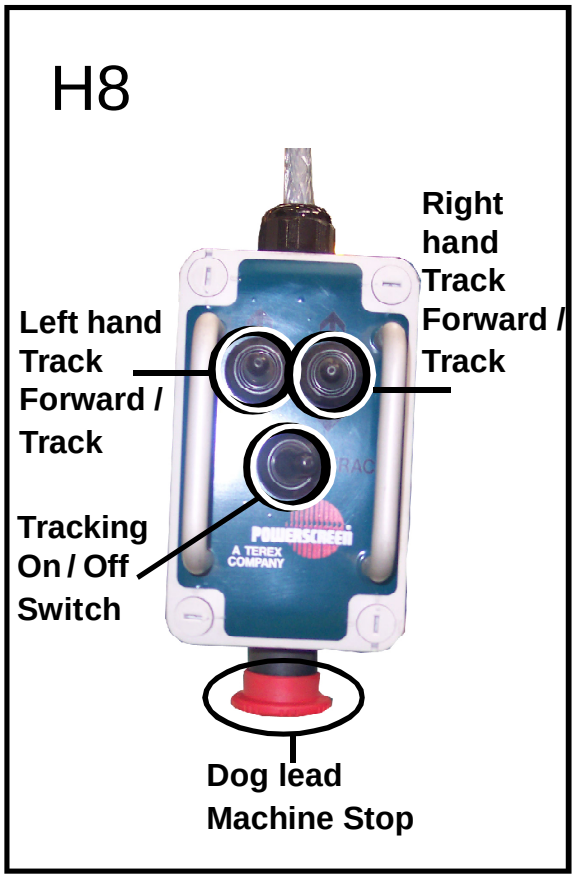
Ensure that the doglead is connected to the machine, and that the doglead E-Stop is not processed.

Start the engine as per setup procedure.

Switch the Tracking On / Off switch on the Doglead handset to the “Track” position.

At this point the siren should sound for 7 seconds and the tracking beacon will flash.

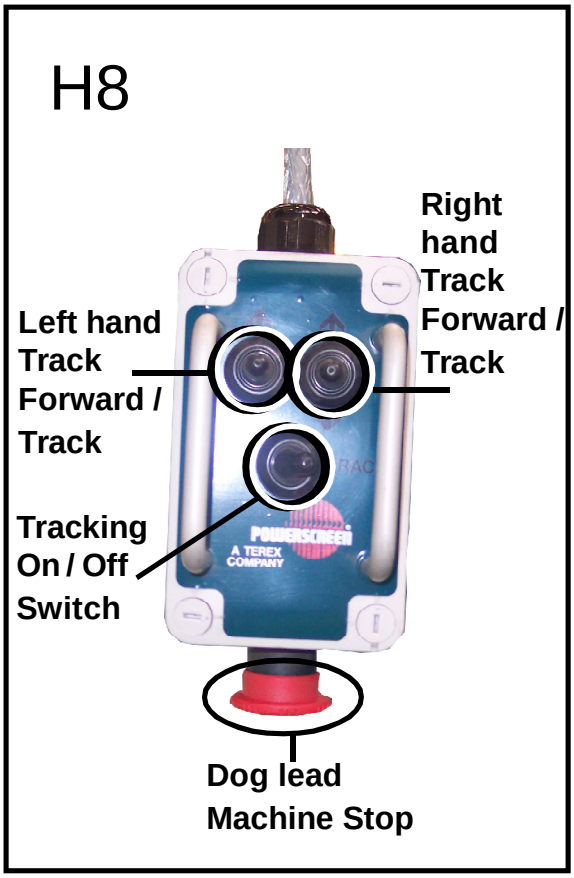
The machine can now be tracked using the contols on the doglead as shown opposite.



Hand-held remote control unit (H8)

NOTICE

When the remote control unit is not in use, the function buttons must remain in the neutral position. Before tracking machine the safety chapter instructions in MUST be read.



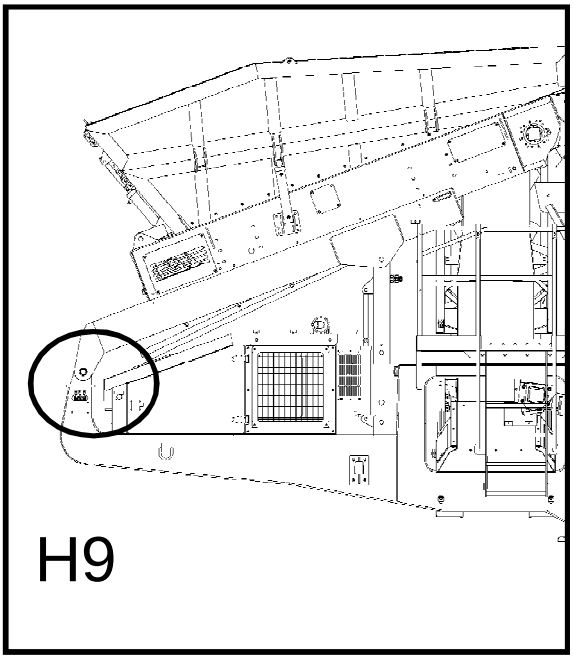
3.2.8.9 Control valve unit (H9)

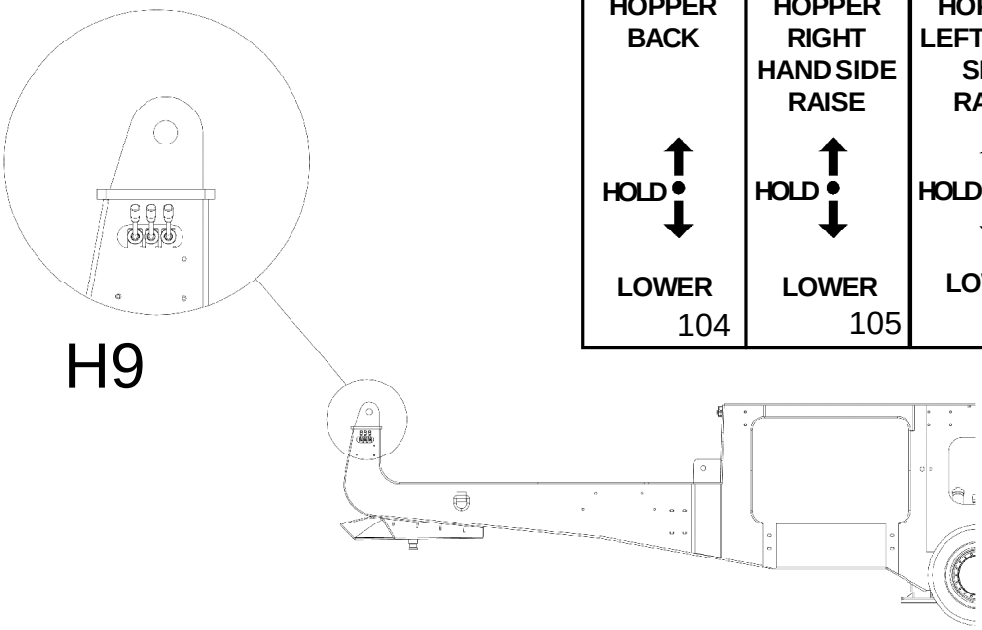
The control valve unit (H9) performs the FOLDING, UNFOLDING , OF THE HOPPER WING PLATES

(1) Hopper back folding
RAISE: A
LOWER: a

(2) Hopper RH folding
RAISE: B
LOWER: b

(3) Hopper LH folding
RAISE: B
LOWER: b





HOPPER BACK	HOPPER RIGHT HAND SIDE RAISE	HOPPER LEFT HAND SIDE RAISE
HOLD	HOLD	HOLD
LOWER 104	LOWER 105	LOWER 106

3.2.10 Hydraulic system

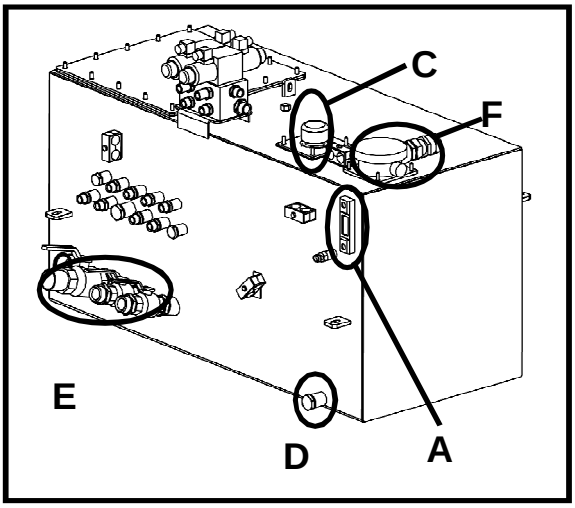
A Hydraulic Oil Level Indicator

C Filler Cap

D Drain Plug

E Suction Filters

F Return Line Filter



3.2.10.1 Return Line Filter (F)

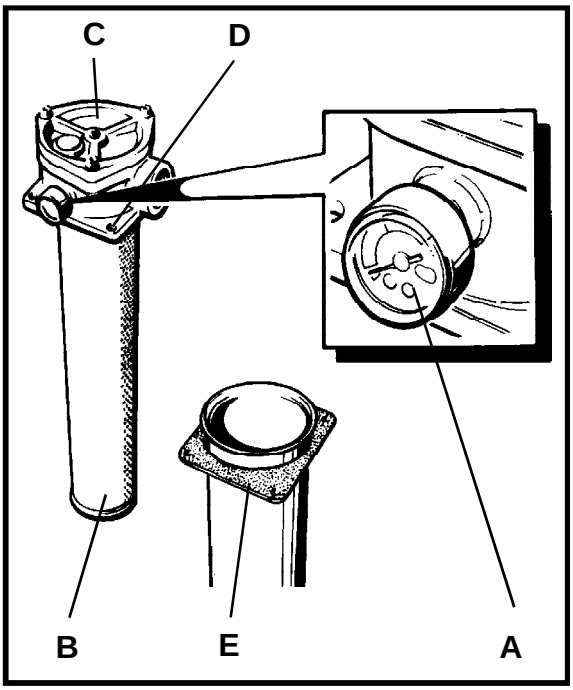
A Blockage Indicator

B Filter Element

C Filter Housing

D Retaining Bolts

E Seal ring

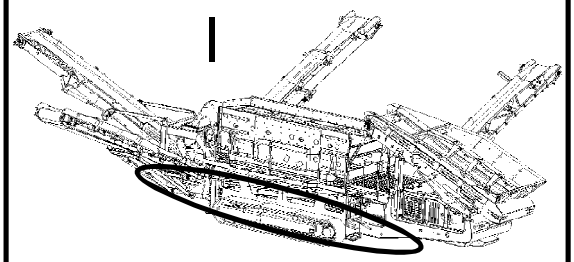


3.2.11 Chassis (I)

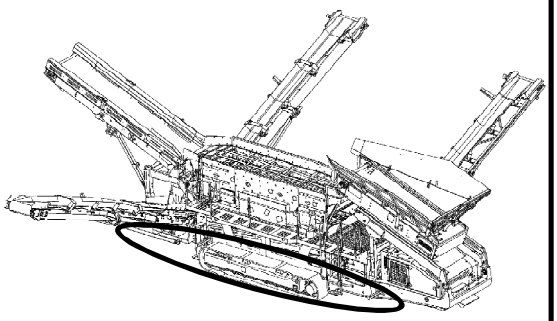
The chassis is sturdily constructed and supports LH side conveyor, hopper, RH side conveyor, tail conveyor, collection conveyor , powerunit and screen unit.

In working position the machine is supported by:

1. One set of tracks



H5163R



H5163

Chassis (I)


POWERSCREEN
A TEREX
COMPANY

Contents

4.2.1 Track machine

HAZARDS	
1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1506 ISO 1506 ANSI	**CRUSHING HAZARD** Refer this Section, safety information for relevant warning.
1503 ISO 1503 ANSI	**READ OPERATOR'S MANUAL** Refer this Section, safety information for relevant warning.
1502 ISO 1502 ANSI	**ENTANGLEMENT MANUAL** Refer this Section, safety information for relevant warning.
1509 ISO 1509 ANSI	**PRIOR TO TRANSPORT HAZARD** Refer to Safety Chapter Section - **Machine Safety Hazard Decals** for relevant warning

PROCEDURE

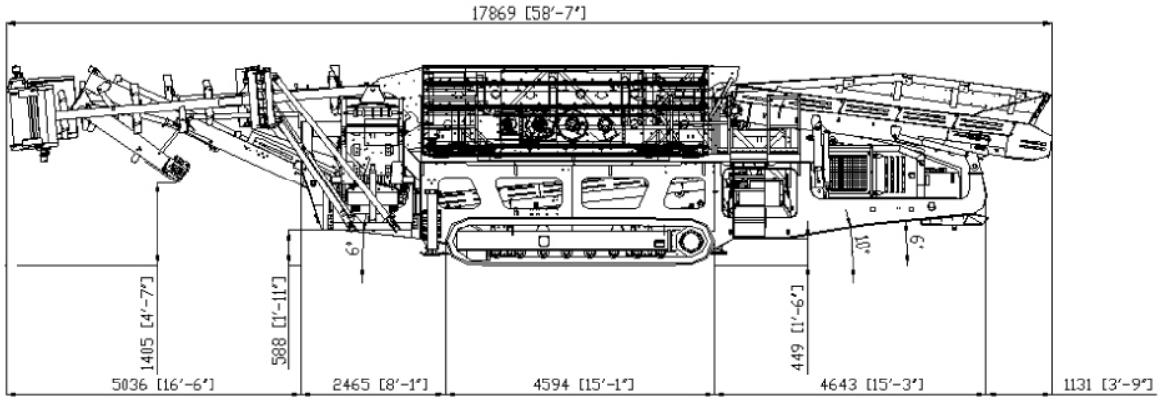
Prior to towing the H5163 on the highway, the machine must be put in towing position in accordance with Section "Shut-off."

1. Observe all safety warnings.

2. Remove all loose materials such as rocks from the machine.

3. Put the machine in the transport position (Refer to Section "Shut- off ").

4. The machine should be loaded onto the low loader, with the conveyors and hopper in their folded position.



Transport Position - H5163R shown
See Appendix Chapter for further additonal Dimensions

4.2.2 Wheel machine (Roll-in Bogie Option)

PROCEDURE

Prior to towing the H5163 on the highway, the machine must be put in towing position in accordance with Section "Shut-off."

1. Observe all safety warnings.

2. Remove all loose materials such as rocks from the machine.

3. Put the machine in the transport position (Refer to Section "Shut- off.")

4. Attach lights to the front of the machine.

5. Connect and check lights.

6. Check tyre pressure. (Refer to Section "Maintenance.")

7. Check wheel nut torque (Refer to Section "Maintenance.")

8. Connect and check braking system.

9. Re-check wheel nut torque every 150 miles (200km).

HAZARDS	
1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1506 ISO 1506 ANSI	**CRUSHING HAZARD** Refer this Section, safety information for relevant warning.
1503 ISO 1503 ANSI	**READ OPERATOR'S MANUAL** Refer this Section, safety information for relevant warning.
1502 ISO 1502 ANSI	**ENTANGLEMENT MANUAL** Refer this Section, safety information for relevant warning.
1509 ISO 1509 ANSI	**PRIOR TO TRANSPORT HAZARD** Refer to Safety Chapter Section - **Machine Safety Hazard Decals** for relevant warning


POWERSCREEN
A TEREX
COMPANY

Contents

5.1 General information

We recommend that the assembly installation work of the H5163 be carried out by the POWERSCREEN customer service department.

The manufacturer/ supplier will not be liable for damage caused by improper assembly/ installation.

5.2 Dimensions, required space and weight

Dimensions
Refer to Appendix chapter.

Required space
Refer to Appendix chapter.

Weight
Refer to Technical Information chapter.

5.3 Measures before set up

1. Ensure all guards are fully secured in correct/closed position.

2. Remove all loose items from the machine by untying the securing ropes.

When setting up the H5163 pay particular attention to the following points:

1. The H5163 must be placed on solid ground capable of carrying the machine‘s weight.

2. Before detaching the H5163 from the prime mover, it is important that the chosen site is level.

Level the worksite foundation with the loading shovel.

3. Level the H5163 with a precision spirit level.

4. Do not position the machine above ground level, eg. on blocks etc.

5.4 Measures after long term standstill

Check tracks before transporting or moving the machine.

NOTICE

Prior to putting into operation perform daily (10 hour) maintenance schedule.

HAZARDS	
1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.
1508 ISO 1508 ANSI	**FALL HAZARD** Refer this Section, safety information for relevant warning.

5.5 Machine set up

For dusty conditions some account should be taken of the prevailing wind to minimize the possibility of dust entering the air intake.

When setting up the H5163 ensure that enough space is available around the machine/ plant to enable easy set up, servicing and repair work.

Machines arranged before and after the H5163 will have to be placed accordingly.

The general arrangement diagram giving you the basic information of the H5163 including measurements and weight is provided in Section Appendix.

Before setting up the H5163 this section and all of the previous sections must be read, understood and observed.

Any work on and with the machine must be executed by reliable, authorised personnel only. Statutory minimum age limits must be observed.

5.5.1 Starting the engine

All control levers must be in the neutral (non-operational) position. Do not start engine without the above mentioned warning lights being illuminated.

HAZARDS	
1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.
1508 ISO 1508 ANSI	**FALL HAZARD** Refer this Section, safety information for relevant warning.

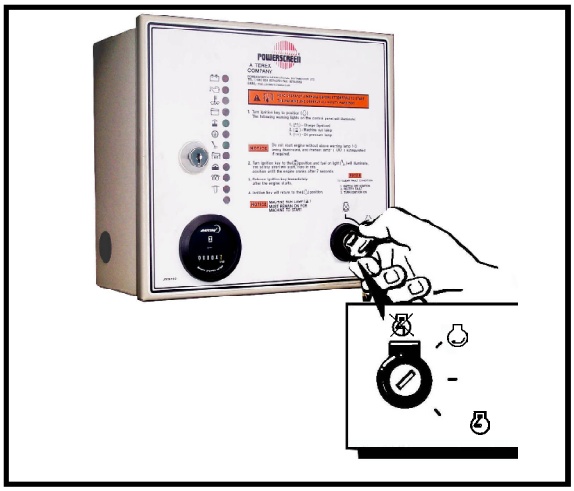
PROCEDURE

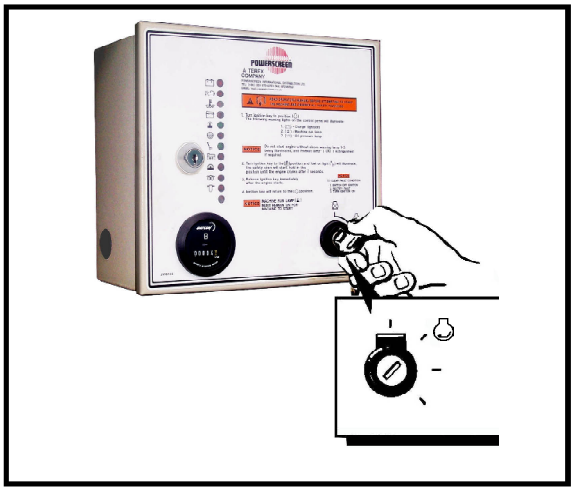
1. Observe all safety warnings.

2. Turn ignition key to position "".

3. The following warning lights on the control panel will illuminate:

(A) - Charge lamp
(B) - Oil pressure lamp
(E) - Machine run lamp

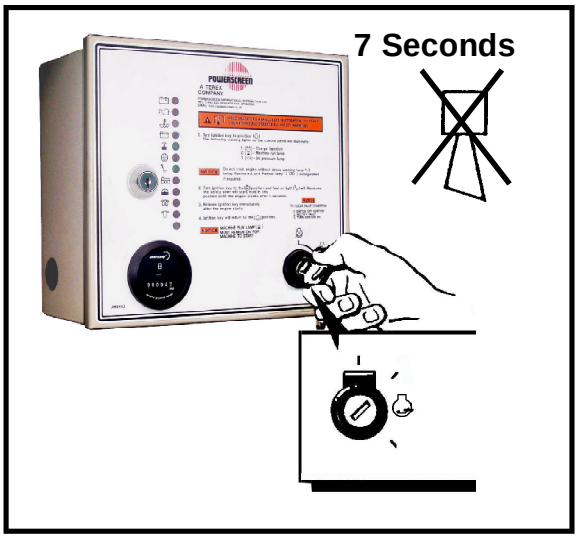




4. Turn ignition key to position " " the safety siren will start, hold in this position until the engine cranks after 7 seconds.

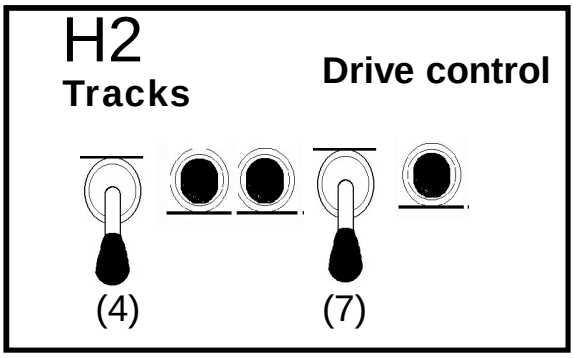
5. Release ignition key immediately after the engine starts.
The key will return to run position, " ".

If the warning lights fail to extinguish stop the engine and detect the fault before using the machine.



5.5.2 RADIO CONTROL

The radio control unit consists of a receiver and a hand held, battery powered radio control unit. It is only fitted as an optional extra.



To operate the radio control

1 Observe all safety warnings

2 Start the Engine

3 Ensure that both levers on the DRIVE control bank are engaged. That is, **the drive FEEDER conveyor control lever and the drive COLLECTION / FINES control lever are in the down position, all other levers should be in the neutral position (G2 - LEVERS 4+7 - LOWER)**

4 Remove handset from cradle and press any button . The siren will sound for 7 seconds and the beacon will operate. After which the radio control handset is active

5 The handset controls are as follows

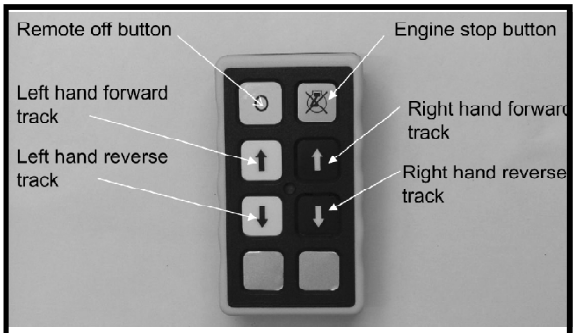


Figure 5.5.2

5.5.2.2 Remote control

WARNING

All control levers must be in the neutral (non-operational) position.

Refer to Section Design & Funtion for complete specification on radio/ remote control units before attempting the following procedures.

HAZARDS	
1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.
1508 ISO 1508 ANSI	**FALL HAZARD** Refer this Section, safety information for relevant warning.

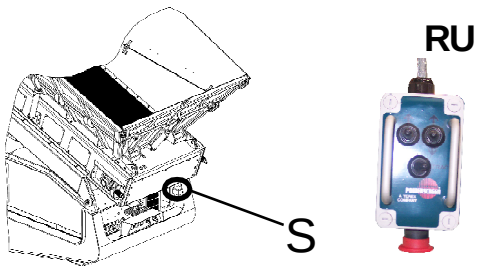
PROCEDURE

1. Observe all safety warnings.

2. Prepare the low loading trailer, for removing the HORIZON on tracks.

3. Remove the dummy plug and insert the remote control unit **(RU)**, into it's socket **(S)** at the rear of the HORIZON.

4. Start the engine. (Refer this Section, relevant paragraph.)



5.5.2.2 Remote control - CONTINUED

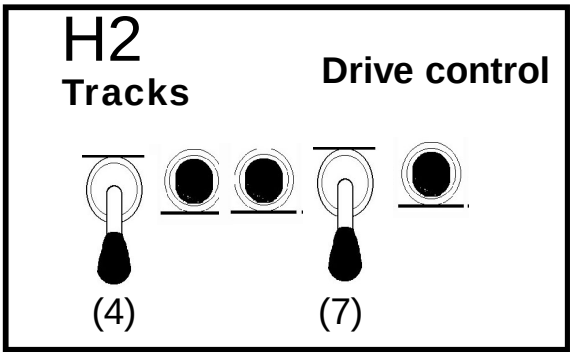
CAUTION

Ensure all personnel are clear from the machine

5. Using the remote control unit (H9,)

To operate the remote control push;

(1) move the track levers down, to activate the tracks
(H2 - Levers 4 and 7)



5.6.3 Prior Installation

HAZARDS	
1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.

PROCEDURE

1. Observe all safety warnings.

2. Remove items, such as side conveyor skirting etc. from the conveyors.

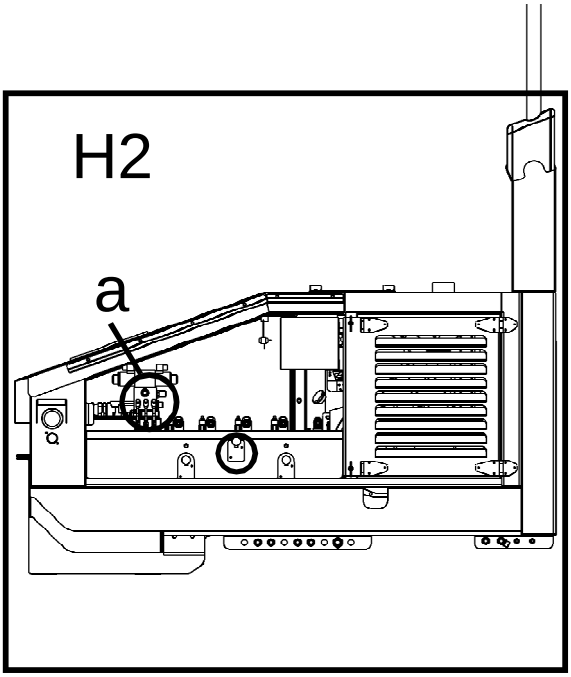
5.5.4 Opening out the FINES side conveyor

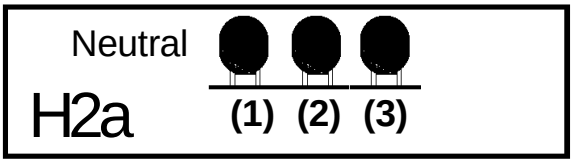
All control levers must be in the neutral (non-operational) position.

The Fines Side Conveyor control valve unit (H2) is situated in the powerunit on the RHS, at the rear of the machine.

HAZARDS	
1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.
1508 ISO 1508 ANSI	**FALL HAZARD** Refer this Section, safety information for relevant warning.

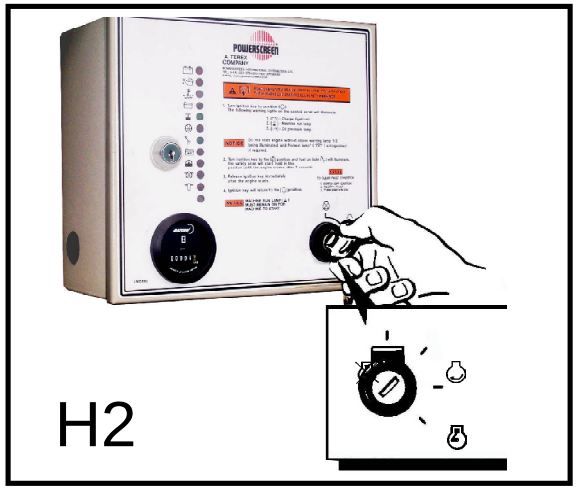
1. Observe all safety warnings.





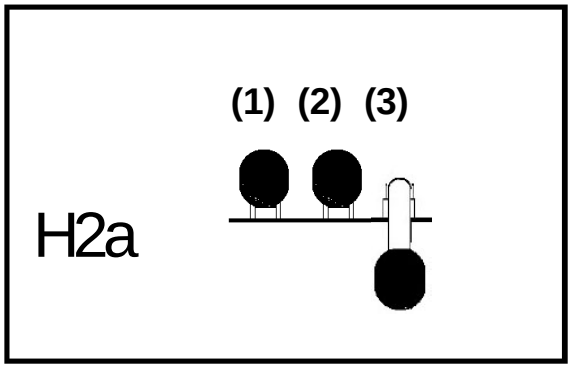
5.5.4 Opening out the FINES side conveyor - Continued

2. Start the engine.
(Refer relevant paragraph, section 5.5.1).



3.Remove all transport pins and transport stays from the side conveyor.

4. Move the Fines conveyor lever down to fold the conveyor out into working position. **(H2 - LEVER 3 - LOWER)**



5.5.4 Opening out the FINES side conveyor -Continued

5. Insert the working position pins
1 off LH/RH.

5.5.5 Opening out the MID FINES side conveyor (H6)

All control levers must be in the neutral (non-operational) position.

HAZARDS	
1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.
1508 ISO 1508 ANSI	**FALL HAZARD** Refer this Section, safety information for relevant warning.

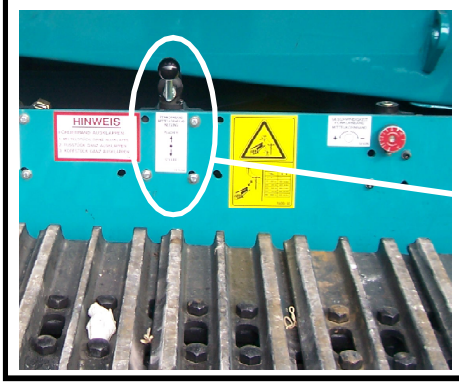
Neutral  H6

PROCEDURE

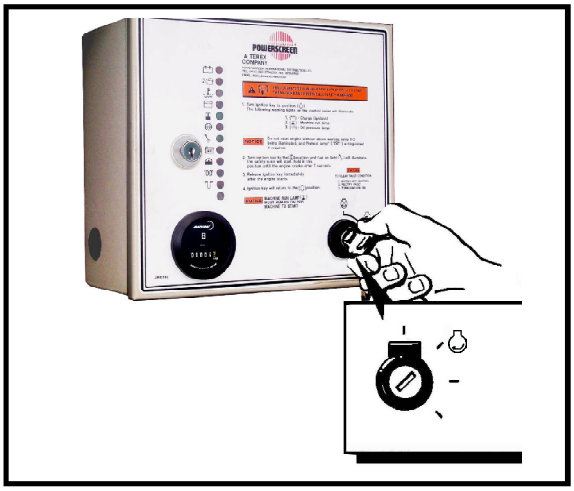
1. Observe all safety warnings.

2. Start the engine.

3. Remove all transport pins **(P)** and transport stays **(TS)** from the side conveyor.

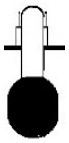


H6



4. Move the MID - FINES side conveyor lever down to fold out the conveyor **(H6 - LEVER LOWER)**.

5. Insert the working position pins 1 off LH/RH.



H6

5.5.6 Opening out the LHS conveyor

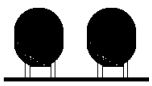
All control levers must be in the neutral (non-operational) position.

LHS conveyor on the H5163 is known as the MID-OVERSIZE, whereas on the H5163R it is known as the OVERSIZE conveyor.

HAZARDS	
1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.
1508 ISO 1508 ANSI	**FALL HAZARD** Refer this Section, safety information for relevant warning.

H4

Neutral



H4

PROCEDURE

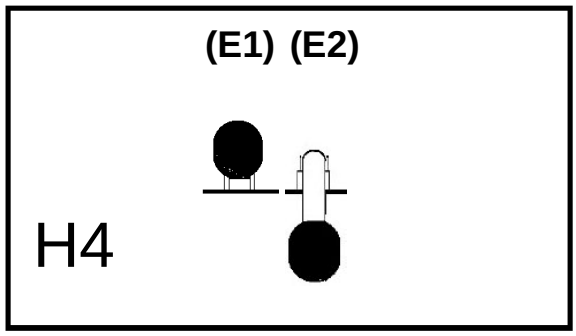
1. Observe all safety warnings.

2. Start the engine.

3. Remove all transport pins (P) and transport stays (TS) from the side conveyor.

4. Move the OVERSIZE side conveyor lever down to fold out the conveyor **(H2 - LEVER E2 LOWER)**.

7. Insert the working position pins 1 off LH/RH.

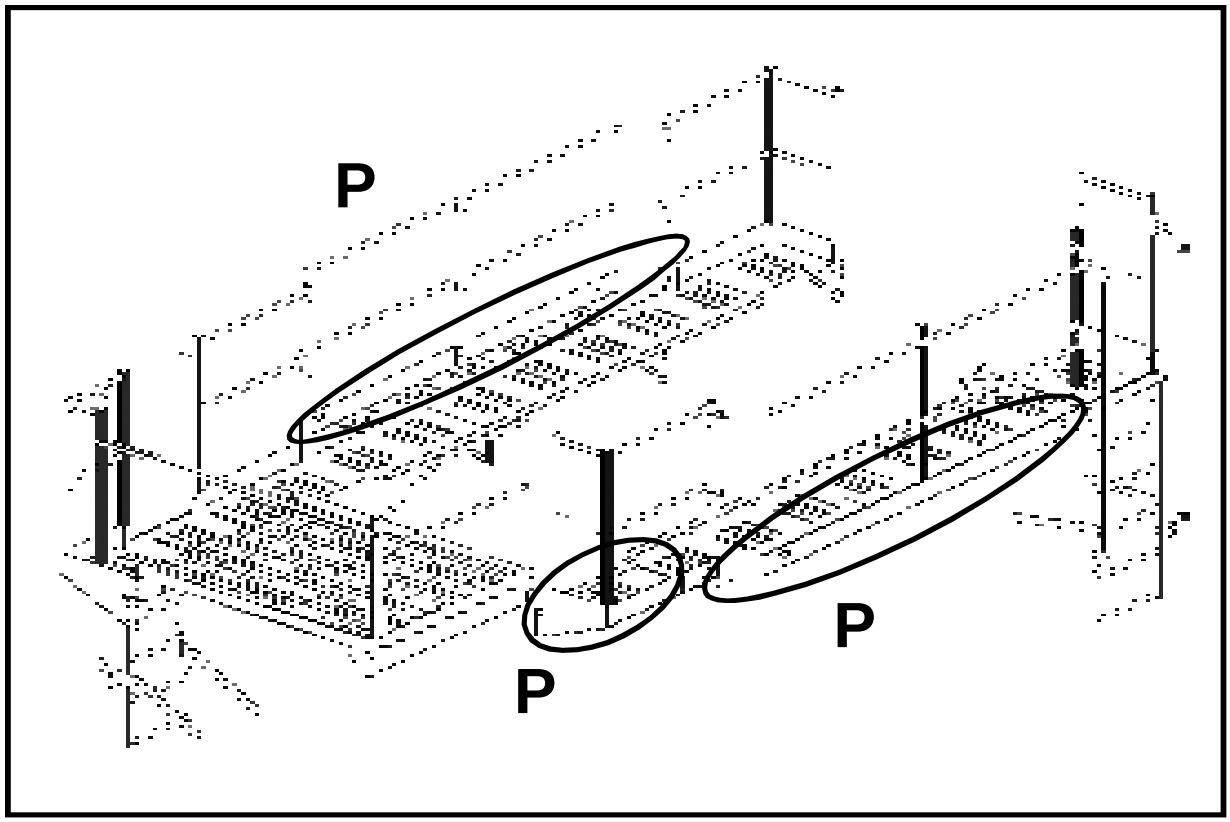


5.5.7 Preparing the walkways

1. Observe all safety warnings.

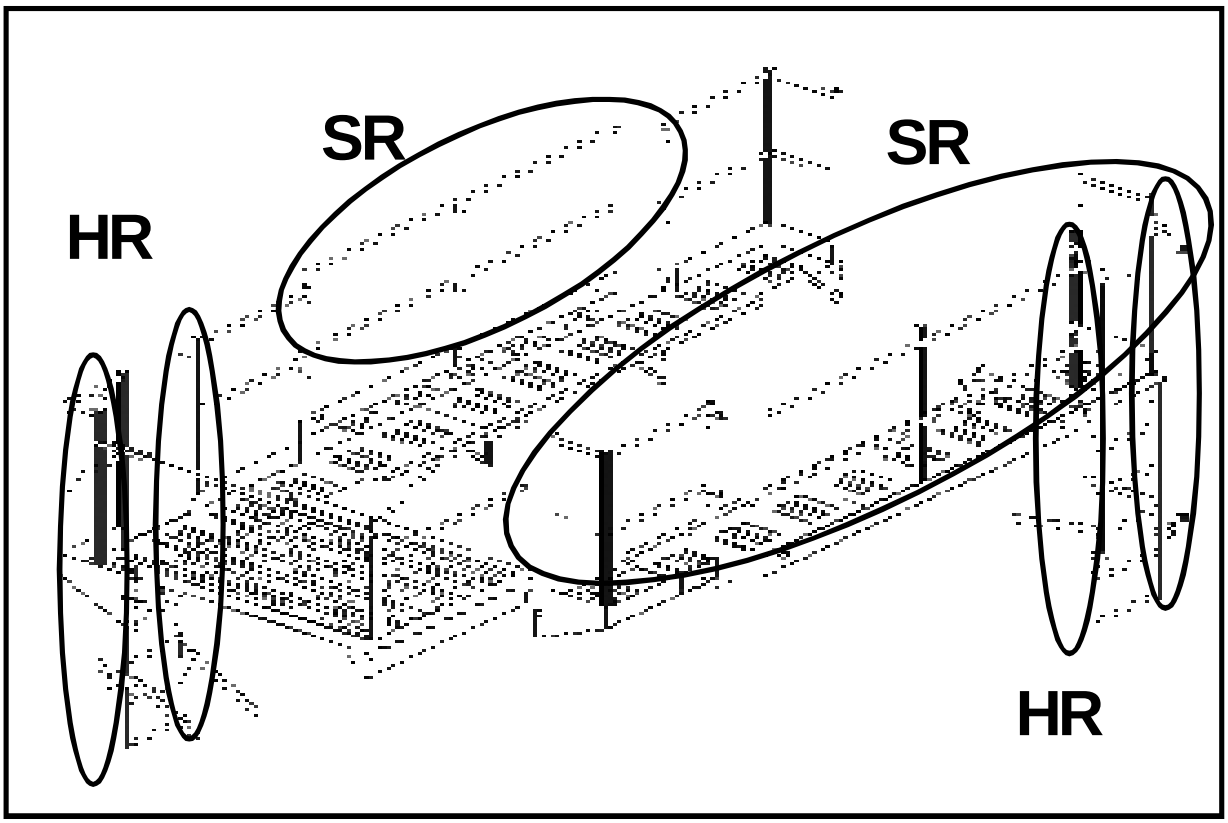
2. Lower RH + LH **(P)** platforms and bolt onto mounting plates.

HAZARDS	
1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.
1508 ISO 1508 ANSI	**FALL HAZARD** Refer this Section, safety information for relevant warning.



5.5.7 Preparing the walkways - Continued

4. Attach side rails **(SR)** and hand rails **(HR)**



5.5.8 Opening out the Tail Conveyor

All control levers must be in the neutral (non-operational) position.

PROCEDURE

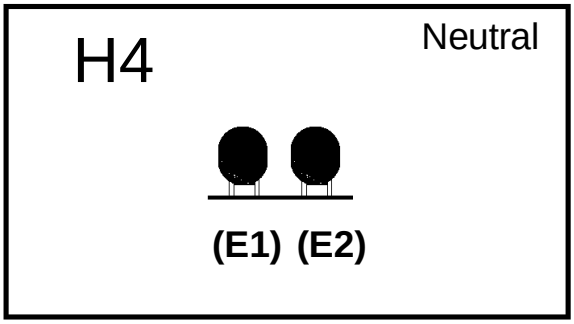
The combined oversize side and tail conveyor control valve unit (H4) is situated on the left hand side, at the front of the machine.

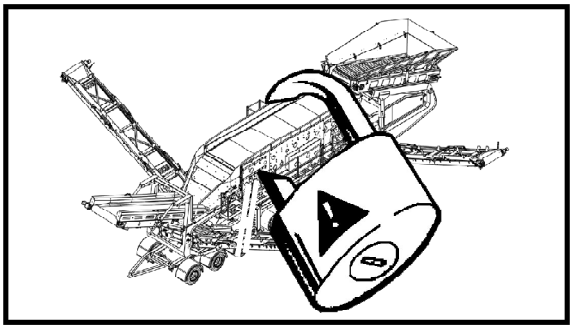
1. Observe all safety warnings.

2. Stop the machine and implement the LOCKOUT procedure.

HAZARDS

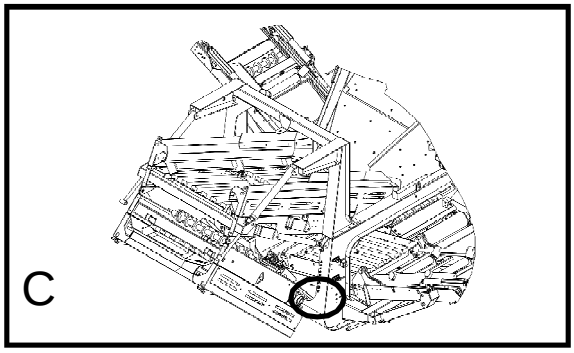
1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.
1508 ISO 1508 ANSI	**FALL HAZARD** Refer this Section, safety information for relevant warning.

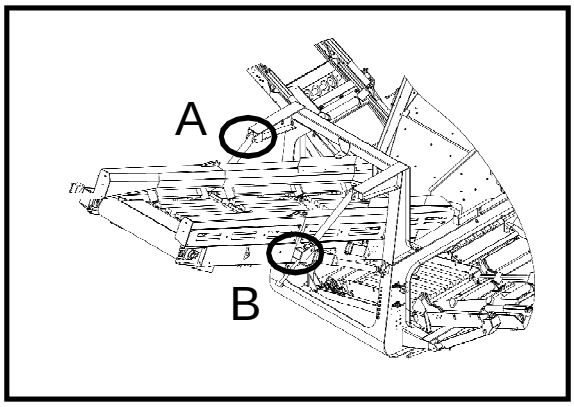




5.7.8 Opening out the Tail Conveyor - Continued

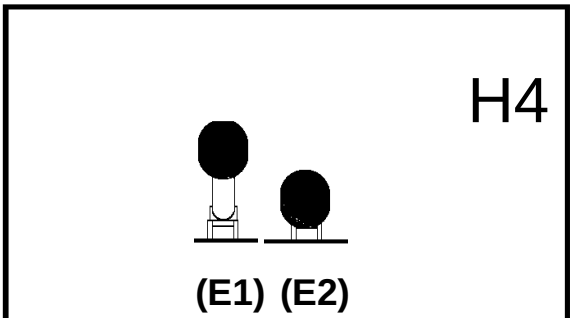
3. With the aid of proper lifting equipment lift conveyor at position (C). Raise until in position. Fix adjusters and bolt into position as shown (A +B).





4. Start the engine (Refer to relevant paragraph).

5. Move up the tail conveyor lever until the conveyor is at the required angle **(H4 - Lever E1 - RAISE)**.



6. Shut off ball valve at control lever.

5.5.9 Screenbox Preparation

All control levers must be in the neutral (non-operational) position.

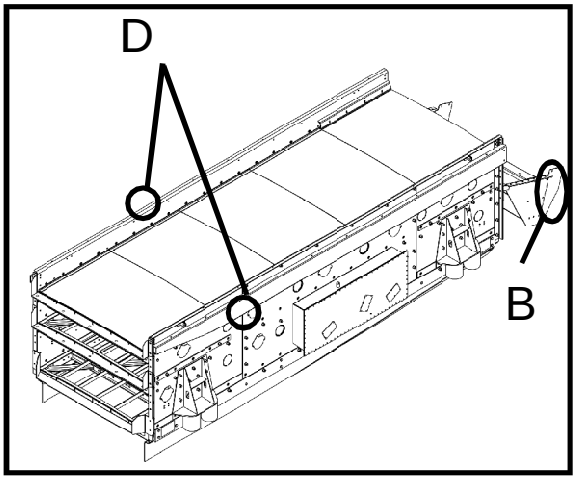
HAZARDS	
1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.
1508 ISO 1508 ANSI	**FALL HAZARD** Refer this Section, safety information for relevant warning.

PROCEDURE

1. Rotate breaker bars (B) into position side deflector plate (D) into position.

NOTICE

For proper operation and maintenance - REFER to CEDERRAPIDS Instruction booklet.



Contents

6.1 General information

The HORIZON may only be operated if the safety instructions provided in the previous chapters have been observed and the described procedures have been performed.

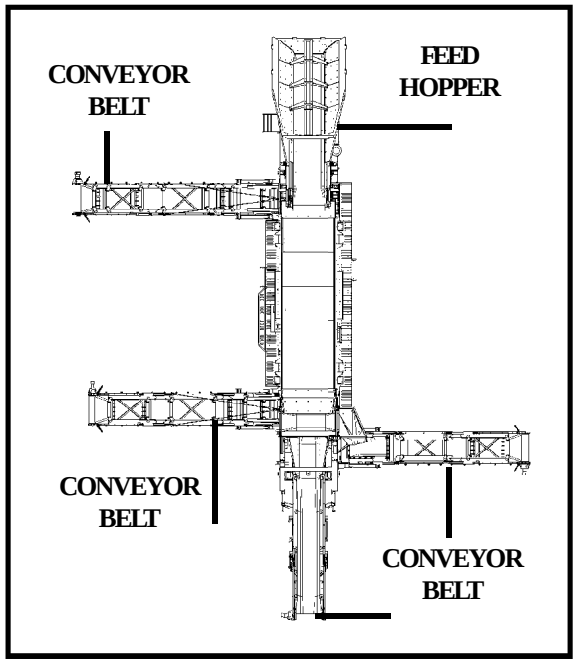
Operate the machine only if all protective and safety devices, such as removable safety devices, emergency shut-off equipment, sound-proofing elements and exhausts are in place, fully functional and properly maintained.

During operation, all sound baffles must be closed.

In the event the machine malfunctions for any reason, stop the machine and lock out immediately. Report the malfunction to the competent authority in charge.

DO NOT continue to operate the machine UNTIL the malfuncton is corrected!

ALWAYS WEAR A EN/ANSI approved HARD HAT AND FOOTWEAR WITH ADEQUATE TOE PROTECTION when working in the vicinity of the machine and on the work site.



KEEP AWAY FROM THE CONVEYOR BELTS, where there is risk of serious injury or death due to rejected processed material and danger from other heavy machinery working in the area, unless you are a fully-trained operator engaged in collecting processed material.

6.2 Normal operation

6.2.1 Putting into operation

The levers of the drive control unit, are for the purpose of driving the machine.

a) Auxiliary control bank
b) Drive control bank

with FOUR additional control valves,

c) Variable speed flow control valve for feeder conveyor

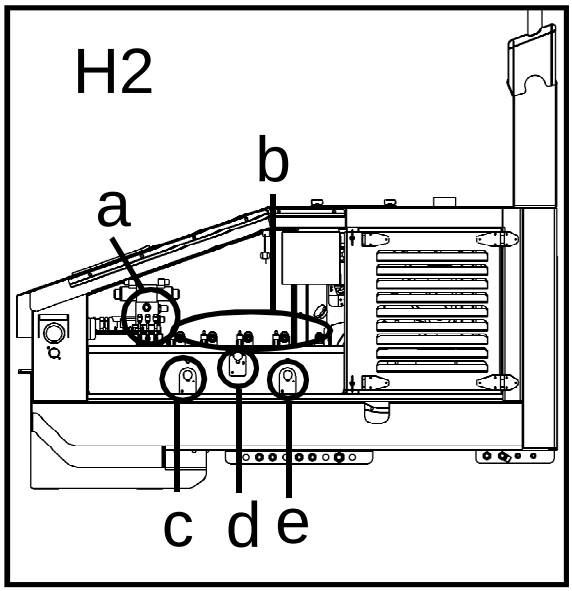
d) Variable speed flow control valve for tail conveyor.

e) Variable speed flow control valve for the collection conveyor.

f) Variable speed flow control valve for the fines conveyor.

HAZARDS

1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.
1508 ISO 1508 ANSI	**FALL HAZARD** Refer this Section, safety information for relevant warning.



PROCEDURE

Note: that all control valve levers are labelled on the machine.

1. Observe all safety warnings.

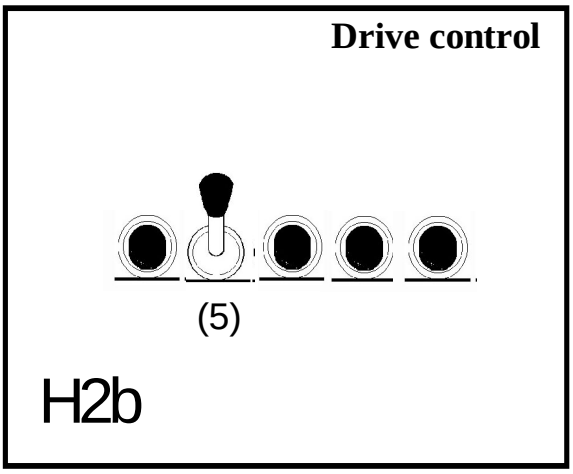
2. Start the engine
(Refer Section Set-up).

6.2 Normal operation

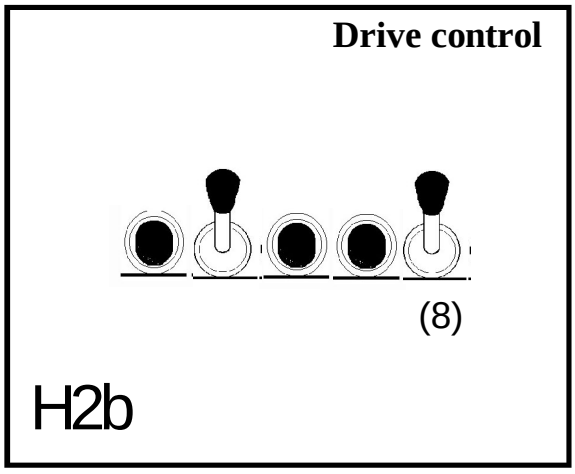
6.2.1 Putting into operation - CONTINUED

3. Move up the TAIL lever,to start the TAIL conveyor

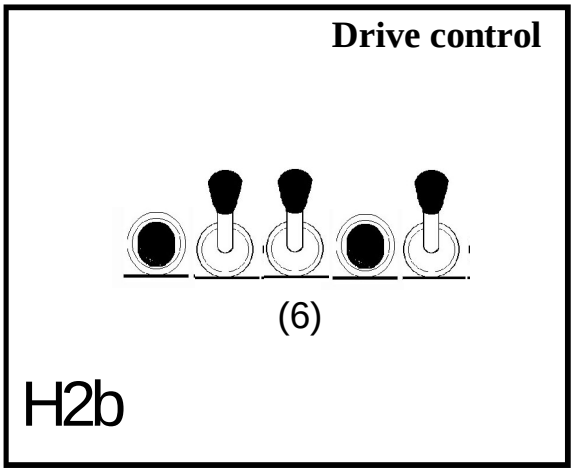
(H2b - LEVER 5 - RAISE)



4. Move up the OVERSIZE / MID FINES conveyor lever to start the OVERSIZE / MID FINES conveyor.
(H2b - LEVER 8 - RAISE)

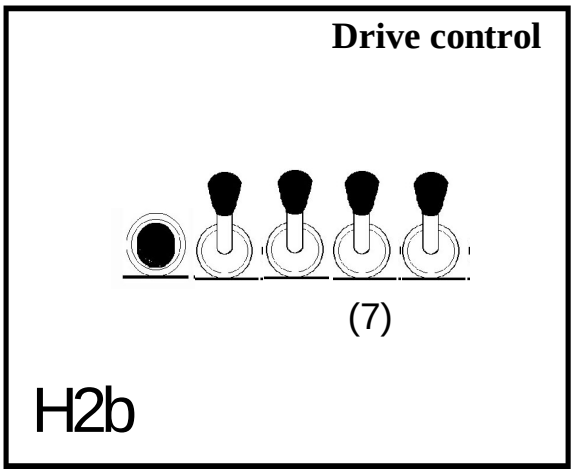


5. Move up the SCREEN + FINES conveyor lever to drive the screen motor and to to start the FINES conveyor.
(H2b - LEVER 6 - RAISE)

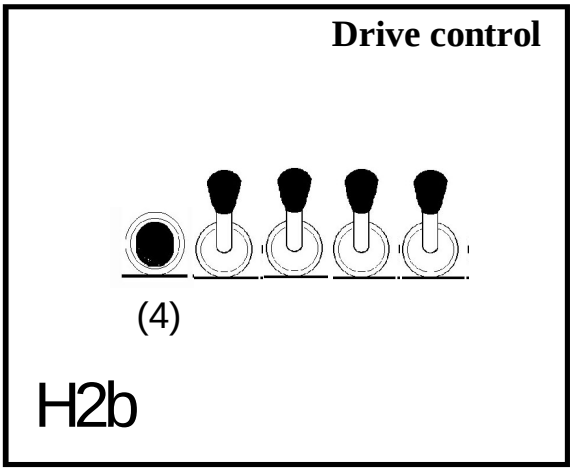


6.2 Normal operation

6.2.1 Putting into operation - CONTINUED



7. Move up the COLLECTION lever to start the COLLECTION conveyor.
(H2b - LEVER 7 - RAISE)



8.Move up FEEDER lever to drive feeder conveyor.
(H2b - LEVER 4 - RAISE)

9. Set the MID FINES + TAIL conveyor speeds on the variable speed controls relative to material **(H2 - FLOW CONTROLS C+D)**.

10. Check that all conveyor belts are running in alignment.

If an adjustment is necessary refer to Section Maintenance.

11.Turn the control knobs of the variable speed flow control valves to level 2.

12. Fill up the feed hopper.

13. To obtain optimal feeder speed, turn the control knob of the variable speed flow control valve **(C)**

    counter clockwise:
    To increase the feeder speed.

    clockwise:
    To decrease the feeder speed.

14. Re-check that all conveyor belts are running in alignment.
    If an adjustment is necessary refer to Section 8, “Maintenance.”
    Check that screenbox is running and is capable of screening.

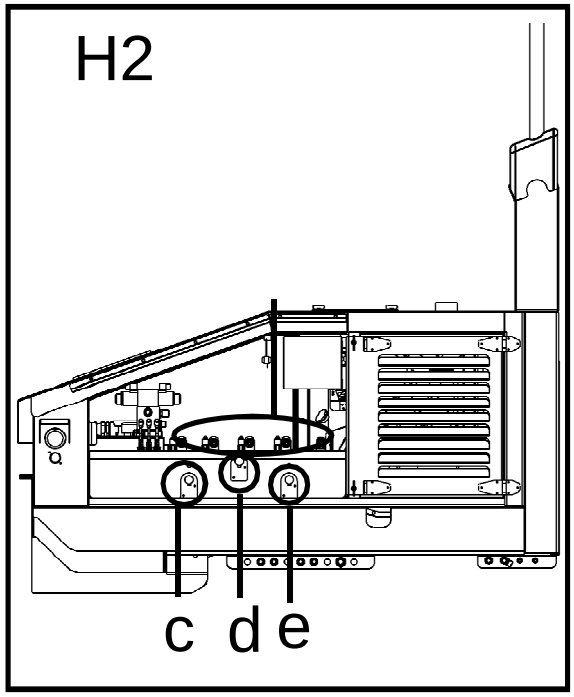
15. Re-fill feed hopper.

16. To obtain optimal feeder speed, turn the control knob of the variable speed flow control valve (C):

    counter clockwise:
    To increase the feeder speed.

    clockwise:
    To decrease the feeder speed.

17. The machine is now adjusted for continuous operation.



6.2.2 Operating the system (Remote operation is optional)

Only authorized personnel are permitted to operate this system.

Before operating any function by remote control the operator should have direct sight of the function and be fully aware of the consequences of operating the function.

It is the responsibility of the operator to ensure that the remote transmitter is only operated when it is safe to do so.

The operator must be familiar with the operation of the machine and must observe all safety procedures and warnings. Before starting the machine or operating any function the operator must be sure that it is safe to do so.

To operate the system manually the machine should be started as normal.

The hydraulic valve operating levers should be set to the function run position. At this point no function will operate. Press the push buttons on the control unit in the proper sequence to operate the machine.

A second press of any function button will turn the function off.

The shutdown sequence should be carried in the proper sequence to stop the machine.

6.2.2 Operating the system contined (Remote operation is optional)

To operate the machine using the remote transmitter the machine should be started as normal.

The function levers should be set to the run position. At this point no function will operate. Before the function buttons can operate on the remote control the ON button on the transmitter has to be pressed twice within 2 seconds to arm the operating buttons. Press the operating buttons on the remote control transmitter to turn on the functions taking care that the buttons are operated in the proper sequence.

When the operating buttons are active the led on the transmitter will light when a button is pressed.

A second press of a function button will turn the function off. The shutdown should be carried out in the proper sequence to stop the machine. If no function is operated by the remote transmitter for 2 minutes the transmitter will turn off and the function buttons will not operate until the transmitter is rearmed.

6.2.3 Care and Maintenance (Remote operation is optional)

The control unit should be located where it is protected from falling debris and water spray. The control unit does not require any maintenance.

The transmitter should be kept in a safe location and protected from falling debris and water contamination.
If the transmitter is being operated from a loader then it may be possible to clip or secure the transmitter to the loader sun visor or some other suitable fixture using the belt clip located on the rear of the transmitter housing. However it is stored the transmitter should be protected from impact damage.

If any such damage occurs or the casing or buttons are visibly damaged or the transmitter has been tampered with or malfunctions in any way the transmitter should be disabled by removing the battery cover located at the rear of the unit and removing the batteries. The transmitter should be replaced or returned for examination.

Transmitter batteries
(Remote operation is optional)

Transmitter battery life depends on the amount of use of the transmitter.

Low batteries are indicated by the led on the transmitter going dim when a button is operated and/or functions not turning on or off. When this happens the batteries should be replaced.
2 1.5 volt AAA alkaline batteries located in the rear of the transmitter casing power the transmitter. To replace the batteries: -

1. Undo the 3mm screw securing the battery compartment cover at the rear of the transmitter.

2. To remove raise the cover at the end adjacent to the belt clip on the transmitter, swing the cover out and lift off.

3. Remove exhausted batteries.

4. Fit 2 new AAA size alkaline batteries taking special care to ensure that the battery polarity symbols align with the corresponding symbols embossed on the base of the battery compartment. Incorrect polarity may damage the transmitter. Do not mix old and new batteries.

5. Refit the cover by engaging the small catches at the bottom edge of the cover with the slots on the lower edge of the battery compartment and then fold the cover towards the belt clip. Secure the cover with the 3mm screw

Reciever Programming (Remote operation is optional)

The receiver is coded to the transmitter so that the transmitter can communicate with the receiver. Each transmitter has a unique code and if a transmitter or receiver is replaced the receiver has to be programmed to match the transmitter.
To program a receiver to a transmitter proceed as follows: -

1. Remove the cover from the control unit casing by unscrewing the 4 fixing screws. Ensure that “LD1” led is turned on. This led is situated on the top right side of the main circuit board and indicates that the receiver is supplied with power.

2. Locate the “prog I D” switch and the “prog” led situated above the 40 pin device on the main circuit board.

3. Set the “prog I D” switch to program position by moving the switch lever to the left position.

4. Locate the “program I D” push button situated to the right of the 40 pin device.

5. Press and release the “program I D” push button. The “prog” led will turn on.

6. Arm the transmitter if not already armed by operating the “ON” button twice within 2 seconds. Press and release any transmitter operating button. The “prog” led will turn off and the “valid signal” led (situated below the 40 pin device) will turn on while the transmitter button is being pressed.

7. Set the “prog I D” switch to the operating position by moving the switch lever to the right position. The programming is now completed.
8. Replace the lid on the control unit casing and secure with the 4 screws.

NOTICE

The receiver also has a block of 8 switches fitted beside “LD1” led. These switches are factory set and should not be adjusted.

6.3 Emergency Stop

In case of incident or trouble, you MUST follow the following procedure:

1. Engage the nearest emergency stop.

2. Switch off the engine and remove the ignition key.

3. Implement the Lockout procedure.

4. Only when the machine is fully switched off, should an attempt be made to solve the problem.

5. Never work alone.

6.4 Restart after Emergency Stop

1. Ensure that the problem has been solved.

2. Ensure that all personnel are outside clear of the machine.

3. Ensure that all guards and safety devices are correctly fitted and fully functional.

4. Release all emergency stops.

5. Re-start the machine.
(Refer to relevant paragraph).

Contents

7.1 Shut-off

Empty HORIZON prior to shut-off.

PROCEDURE

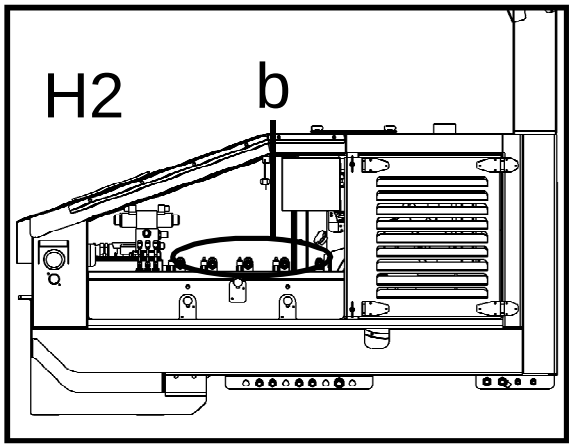
1. Observe all safety warnings.

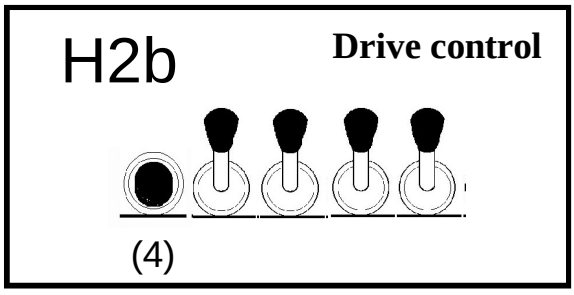
2. Stop the FEEDER conveyor. **(H2-Lever 4 - Neutral)**.

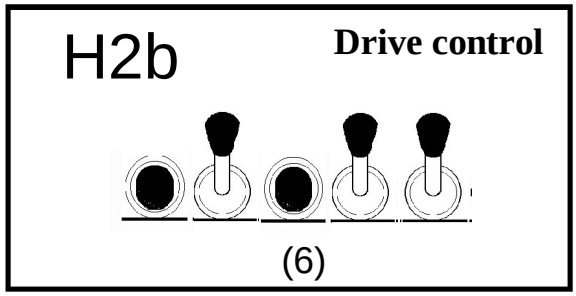
3. Stop the SCREEN + FINES conveyor. **(H2 - Lever 6 - neutral)**.

HAZARDS

1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.
1508 ISO 1508 ANSI	**FALL HAZARD** Refer this Section, safety information for relevant warning.

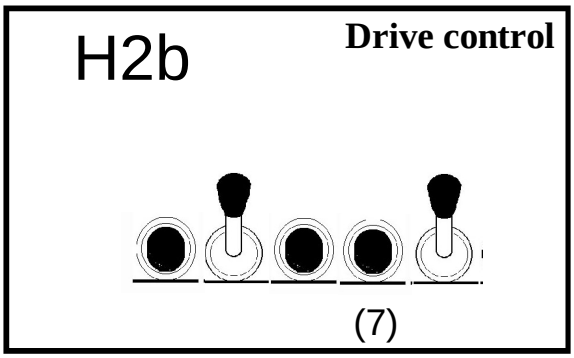




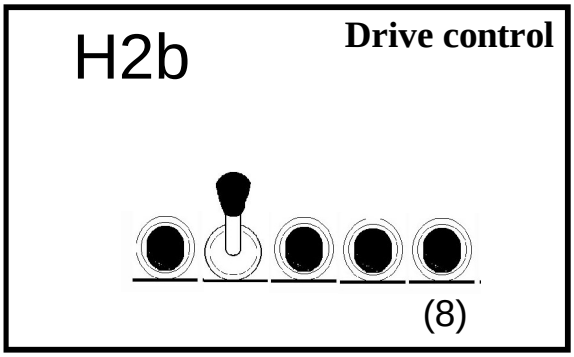


7.1 Shut-off - CONTINUED

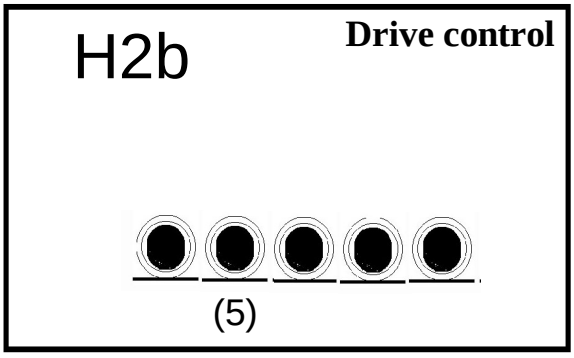
4. Stop the COLLECTION conveyor **(H2 - Lever 7 - neutral)**.



5. Stop the LHS and TRANSFER conveyor **(H2 - Lever 8 - neutral)**.



6. Stop the TAIL/MID FINES conveyor **(H2 - Lever 5 - Neutral)**.



7. Stop the engine.

7.2 Putting the machine in the transport position

Shut-off the H5163 in accordance to Section "Shut-off," prior to putting into transport position.

PROCEDURE

1. Observe all safety warnings.

2. Start the engine.
(Refer to Section 5, "Set up.")

3. Prepare the walkways

4. Prepare the transfer conveyor (slide back).

5. Prepare screenbox for transport.

6. Prepare FINES side conveyor for transport.

7. Prepare MID-FINES side conveyor for transport.

8.Prepare LHS side conveyor for transport.

9.Prepare tail conveyor for transport.

NOTICE

Tail drum adjusters must be slackened off before folding the tail conveyor

HAZARDS	
1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.
1508 ISO 1508 ANSI	**FALL HAZARD** Refer this Section, safety information for relevant warning.
1513 ISO 1513 ANSI	**HEARING HAZARD** Refer this Section, safety information for relevant warning.
1503 ISO 1503 ANSI	**READ AND UNDERSTAND MANUAL** Refer this Section, safety information for relevant warning.
1521 ISO 1521 ANSI	**CRUSH HAZARD** Refer this Section, safety information for relevant warning.
1522 ISO 1522 ANSI	**AUTOMATIC STARTUP** Refer this Section, safety information for relevant warning.
1523 ISO 1523 ANSI	**CRUSH HAZARD** Refer this Section, safety information for relevant warning.

7.2.1 Fold MID-FINES side conveyor for transport (H6)

All control levers must be in the neutral (non-operational) position.

PROCEDURE

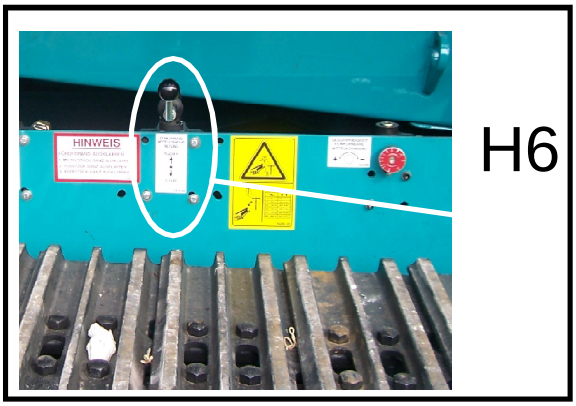
1. Observe all safety warnings.

HAZARDS	
1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.
1508 ISO 1508 ANSI	**FALL HAZARD** Refer this Section, safety information for relevant warning.
1513 ISO 1513 ANSI	**HEARING HAZARD** Refer this Section, safety information for relevant warning.
1503 ISO 1503 ANSI	**READ AND UNDERSTAND MANUAL** Refer this Section, safety information for relevant warning.
1521 ISO 1521 ANSI	**CRUSH HAZARD** Refer this Section, safety information for relevant warning.
1522 ISO 1522 ANSI	**AUTOMATIC STARTUP** Refer this Section, safety information for relevant warning.
1523 ISO 1523 ANSI	**CRUSH HAZARD** Refer this Section, safety information for relevant warning.

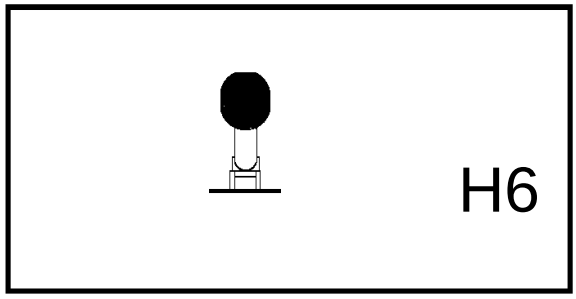
7.2.1 Fold MID-FINES side conveyor for transport - Continued

2. Start the engine.

3. Remove the working pins 1 off Lhs/Rhs.



4. Move up the side conveyor. lever to fold the side conveyor. **(H6-Lever 1)**.



7.2.2 Fold LHS side conveyor for transport

The LHS side and tail conveyor control valve unit (H4) is situated on the LEFT hand side, at the front of the machine.

All control levers must be in the neutral (non-operational) position.

PROCEDURE

1. Observe all safety warnings.

2. Start the engine.

3. Remove the working position pins 1 off LH/RH

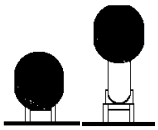
4.Move up the LHS control lever to fold over the LHS conveyor.
(H4 - LEVER E2 - RAISE).

HAZARDS

1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.
1508 ISO 1508 ANSI	**FALL HAZARD** Refer this Section, safety information for relevant warning.

H4

H4



(E1) (E2)

7.2.3 Fold FINES-SIDE conveyor for transport

The Fines Side Conveyor control valve unit (G2) is situated in the auxilliary control bank in the Powerunit.

All control levers must be in the neutral (non-operational) position.

HAZARDS	
1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.
1508 ISO 1508 ANSI	**FALL HAZARD** Refer this Section, safety information for relevant warning.

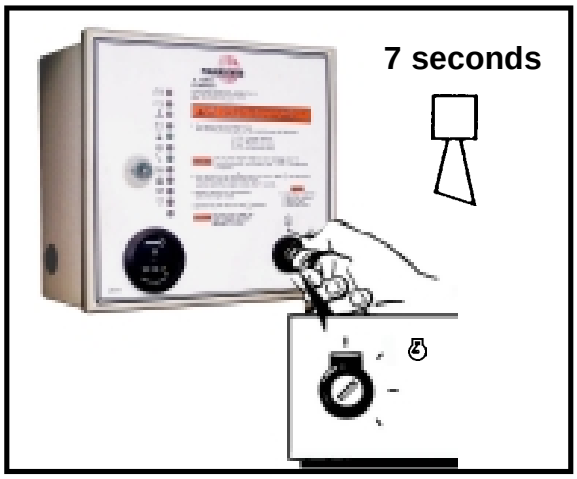
PROCEDURE

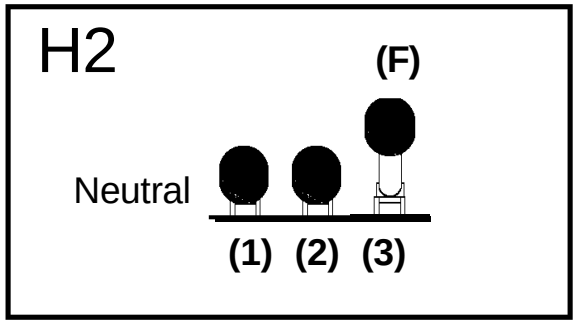
1. Observe all safety warnings.

2. Start the engine.

3.Remove the working pins 1 off Lhs/ Rhs.

4.Move up the side conveyor lever to fold the side conveyor. **(H2 - LEVER 3 - RAISE INTO POSITION F)**.
.





7.2.4 Preparing the walkways for transport

HAZARDS	
1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.
1508 ISO 1508 ANSI	**FALL HAZARD** Refer this Section, safety information for relevant warning.

PROCEDURE

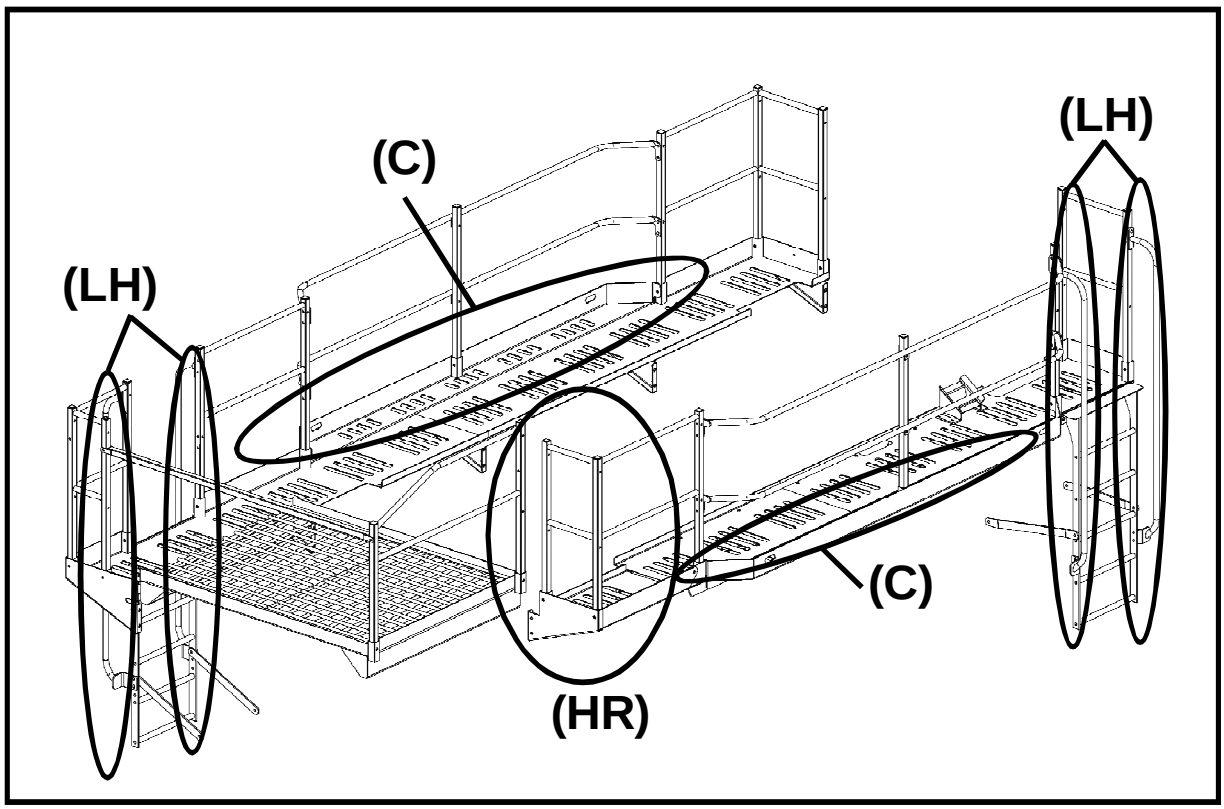
1. Observe all safety warnings.

2. Rotate handrails **(HR)** into position shown for transport.

3. Raise items marked **(C)** for transport.

4. Remove support handrails **(SHR)** for transport.

5. Remove ladder handrails **(LH)** for transport.




POWERSCREEN
A TEREX
COMPANY

8.9.1 Fuel system

8.9.1.3 Empty the fuel filter water trap

HAZARDS	
1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.

PROCEDURE

1. Observe all safety warnings.

2. Unscrew the drain bung at the bottom of the water trap and allow the water to drain out.

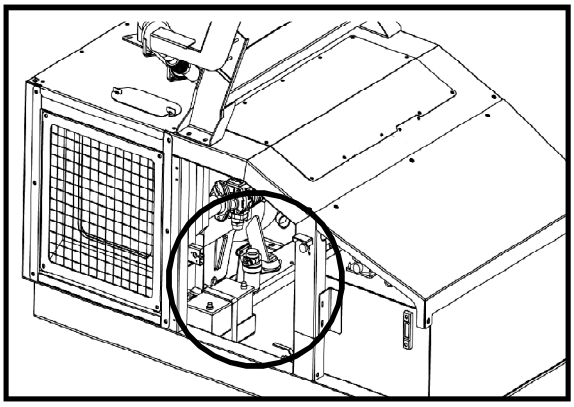
3. Tighten the drain plug when pure diesel starts to come out.

Diesel fuel is highly flammable.

Never remove filler cap or refuel, with the engine running.

Never add gasoline or any other fuel mixes to diesel because of increased fire or explosion risks.

Do not smoke or carry out maintenance on the fuel system near open flame or sources of sparks, such as welding equipment, etc..



8.9.1 Fuel system

8.9.1.4 Change the fuel filter

HAZARDS	
1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.

PROCEDURE

1. Observe all safety warnings.
2. Unscrew the fuel filter.
3. Replace fuel filter.

NOTICE

Fill up the new fuel filter with diesel.

This will make the restart of the machine easier.

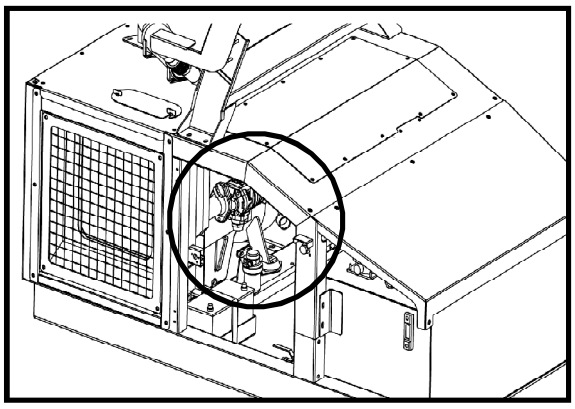
4. Tighten new fuel filter + o-ring

Diesel fuel is highly flammable.

Never remove filler cap or refuel, with the engine running.

Never add gasoline or any other fuel mixes to diesel because of increased fire or explosion risks.

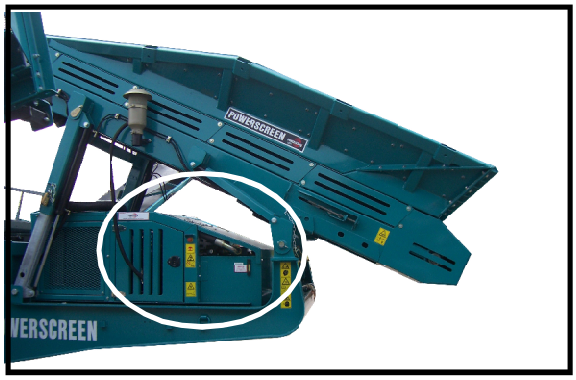
Do not smoke or carry out maintenance on the fuel system near open flame or sources of sparks, such as welding equipment, etc..



8.9.2 Air Cleaner

8.9.2.1 Change outer air-cleaner element

HAZARDS	
1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.



PROCEDURE

NOTICE

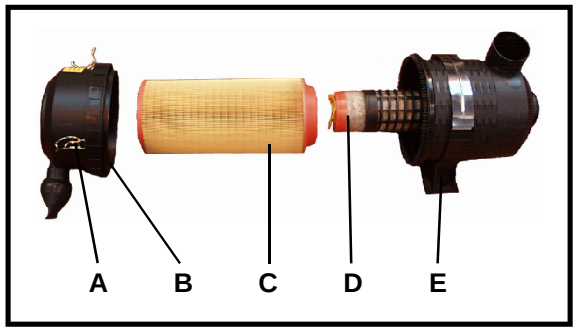
Always obey the air cleaner restriction indicator immediately if the control panel light illuminates. (Never attempt to clean and reuse an element.)
During normal service, the outer element (C) will require replacing only when the restriction indicator is illuminated.

PROCEDURE

1. Observe safety warnings.
2. Release the three clips (A).
3. Remove cover (B).
4. Carefully remove outer filter (C).

Do not run the engine with the dust cover (C) removed as this will result in dust ingression and subsequent engine failure.

5. Lift the tabs on the outer edge and remove inner element (D).



8.9.2 Air Cleaner

8.9.2.1 Change outer air-cleaner element - CONTINUED

6. Clean the inside of the air-cleaner casing using a damp, lint free cloth, paying particular attention to the element seals.

7. Replace the existing inner element (D).

8. Insert outer element (C) into place.

9. Re-fit cover (B).

10. Fasten the three clips (A).

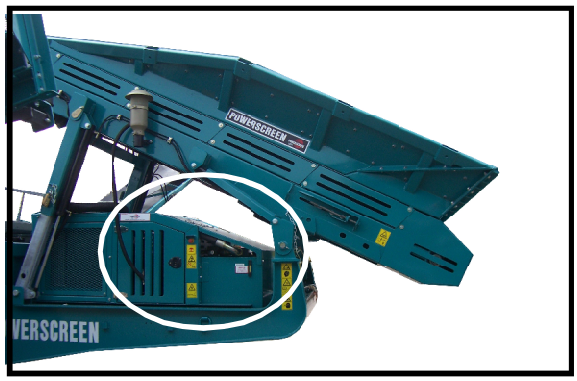
If the outer element has not been changed for 500 operating hours, a leak in the induction system must be suspected. Check that the air cleaner casing and hoses to the engine are not damaged. Check that all hose connections are airtight.

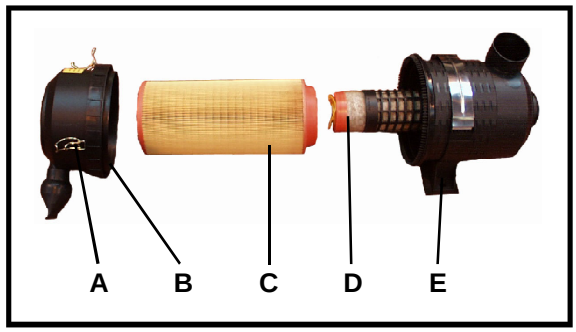
8.9.2 Air cleaner

8.9.2.2 Clean the air cleaner

Always obey the Air Cleaner restriction indicator immediately if the control panel light illuminates.
(Never attempt to clean and reuse an element.)

HAZARDS	
1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.





PROCEDURE

1. Observe safety warnings..
2. Release the three clips (A).
3. Remove cover (B).
4. Carefully remove outer filter (C).
5. Wipe the bowl clean. Remove oil or grease by washing in hot water with a mild detergent.
6. Refit the outer filter (C).
7. Refit cover (B).
8. Fasten the three clips (A).

Do not run the engine with the dust cover (C) removed as this will result in dust ingression and subsequent engine failure.

8.9.1 Air Cleaner

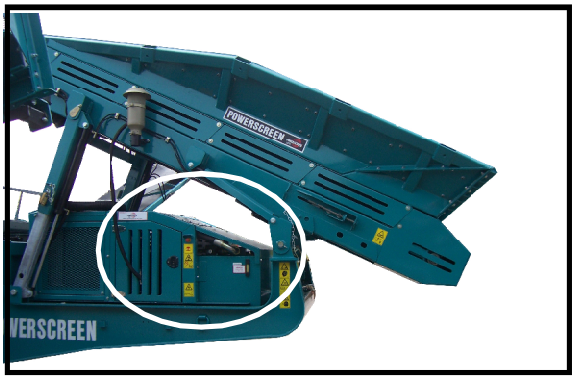
8.9.2.3 Check both air-cleaner elements

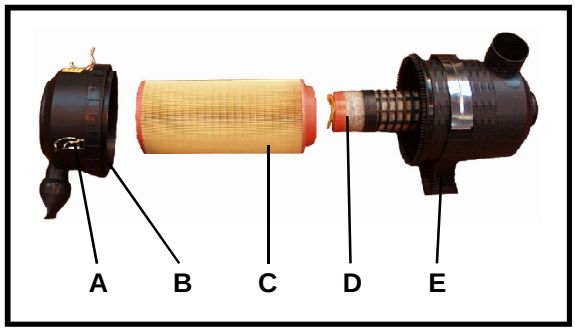
HAZARDS

1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.

PROCEDURE

1. Observe safety warnings..
2. Release the three clips (A).
3. Remove cover (B).
4. Carefully remove outer filter (C) and inner filter (D).
5. Discard the elements if they are distorted or the bonded gaskets are loose.
6. Hold each element up to the light to check for damage to the paper. The elements should be discarded if pin pricks of light can be seen or if there are areas of paper that appear thin.
7. Refit new or existing elements as required.





Do not run the engine with the dust cover (C) removed as this will result in dust ingression and subsequent engine failure.

8.9.1 Air Cleaner

8.9.2.4 Changing the inner air cleaner element

HAZARDS

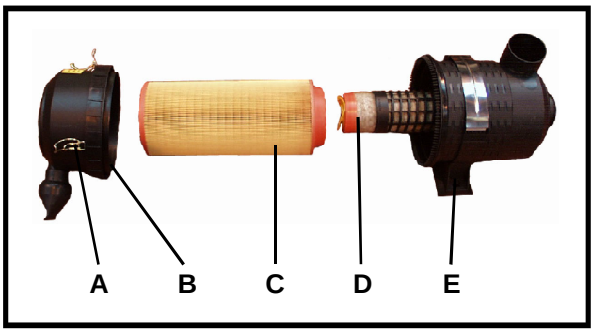
1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.

NOTICE

Always obey the air cleaner restriction indicator immediately if the control panel light illuminates. (Never attempt to clean and reuse an element.)
During normal service, the outer element (C) will require replacing only when the restriction indicator is illuminated.

PROCEDURE

1. Observe safety warnings.
2. Release the three clips (A).
3. Remove cover (B).
4. Carefully remove outer filter (C).



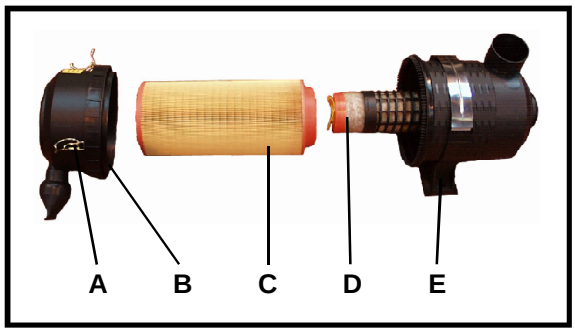
NOTICE

Do not run the engine with the dust cover (C) removed as this will result in dust ingression and subsequent engine failure.

5. Lift the tabs on the outer edge and remove inner element (D).

8.9.1 Air Cleaner

8.9.2.4 Changing the inner air cleaner element



6. Clean the inside of the air-cleaner casing using a damp, lint free cloth, paying particular attention to the element seals.

7. Replace the existing inner element (D).

8. Insert outer element (C) into place.

9. Re-fit cover (B).

10. Fasten the three clips (A).

If the outer element has not been changed for 500 operating hours, a leak in the induction system must be suspected. Check that the air cleaner casing and hoses to the engine are not damaged. Check that all hose connections are airtight.

8.9.3 Electrical safety instructions

Switch off the machine immediately if malfunctions occur in the electrical system.

Before beginning work on any of the machine‘s electrical components, any power supplied to the machine (whether the battery or a power line) must be cut-off by disconnecting or de-energizing.

Before starting any work, check the machine and the electrical parts to be worked on for the presence of power. Ground or short-circuit the parts to be worked on to prevent the possibility of an electrocution hazard.

Insulate any live parts which cannot be de-energized to prevent the possibility of an electrocution hazard.

Always use insulated tools when working on the electrical systems.

The electrical equipment of the machine is to be inspected and checked at regular intervals. Defects such as loose connections or scorched or otherwise damaged components must be rectified immediately.

Work on the electrical system and equipment of the machine must be carried out by a skilled electrician or by instructed persons under the supervision and guidance of a skilled electrician and in accordance with electrical engineering rules and regulations.

Wiring Diagram see Section 9, “Appendix.”

8.9.3 Electrical safety instructions

8.9.3.1 Check Battery

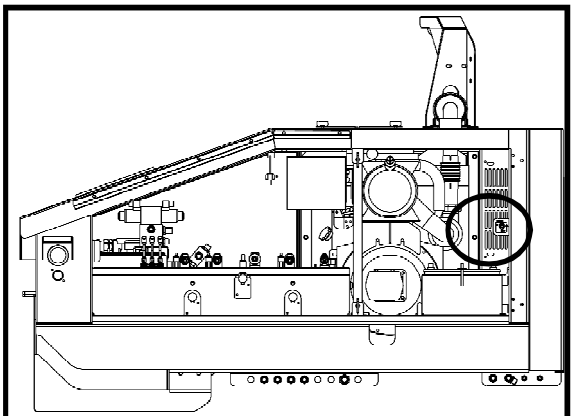
HAZARDS

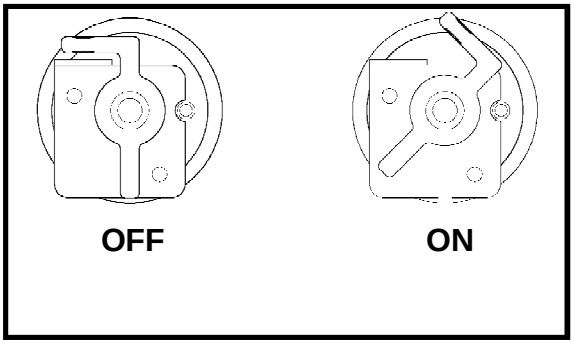
1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.

Always disconnect battery leads before carrying out any maintenance to the electrical system.
The battery contains sulphuric acid, electrolyte which can cause severe burns and produce explosive gasses.
Avoid contact with the skin, eyes or clothing.

PROCEDURE

1. Observe all safety warnings.
2. Ensure that all electrical connections are clean and tight and coat the terminals with petroleum jelly to protect them from corrosion.
3. Disconnect battery at isolator switch **(BIS)** before performaing any maintenance.
4. Remove the battery filler plugs and check that the electrolyte level is between 6 and 9 mm (0.25 - 0.37 ins) above the tops of the separators.
5. If necessary, fill up with distilled water.
6. Where batteries have trough fillers, add distilled water to the filling trough until the trough just begins to fill with water.



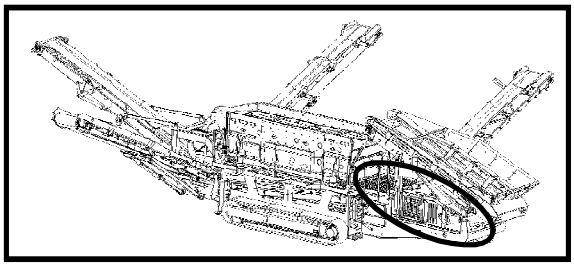


8.9.3 Electrical safety instructions

8.9.3.2 Battery removal

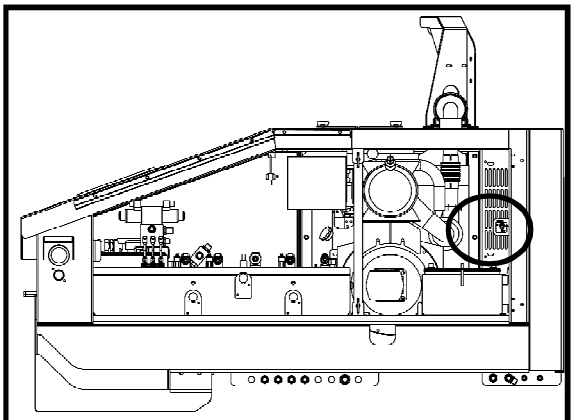
PROCEDURE

1. Observe all safety warnings.
2. Ensure all electrical circuits are switched off.
3. Disconnect battery at isolator switch **(BIS)** before performaing any maintenance.
4. Disconnect the ground (-) lead from the battery (B.)
5. Disconnect the positive (+) lead from the battery.
6. Loosen bolts from the battery retaining frame.
7. Remove the battery retaining frame.
8. Lift the battery from the machine.

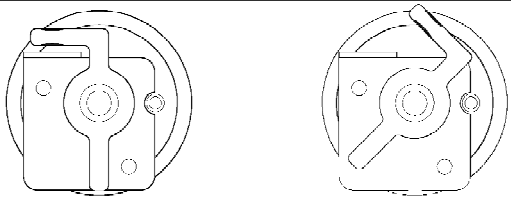


HAZARDS

1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.



BIS - Battery Isolator Switch



OFF **ON**

BIS - Battery Isolator Switch

Always disconnect battery leads before carrying out any maintenance to the electrical system.
The battery contains sulphuric acid, electrolyte which can cause severe burns and produce explosive gasses.
Avoid contact with the skin, eyes or clothing.

8.9.3 Electrical safety instructions

8.9.3.3 Battery installing

PROCEDURE

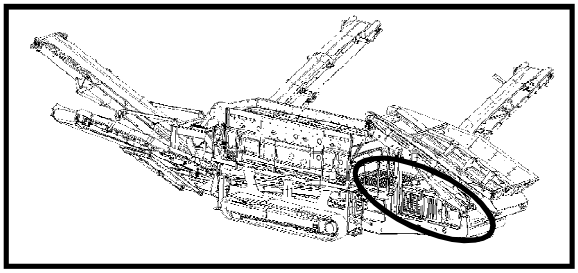
1. Observe all safety warnings.
2. Ensure all electrical circuits are switched off.
3. Disconnect battery at isolator switch **(BIS)** before performaing any maintenance.
4. Lift the battery (B,) onto the machine.
5. Fit the battery retaining frame.
6. Tighten bolts on the battery retaining frame.
7. Connect the positive (+) lead.
8. Connect the ground (-) lead.

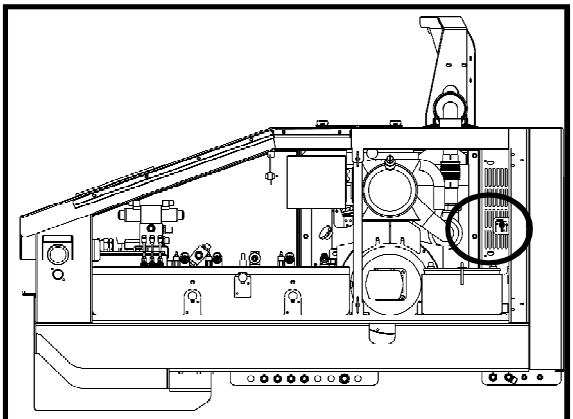
NOTICE

When installing the battery the positive (+) lead must be connected first.
These machines are wired negative ground. Always observe correct polarity.

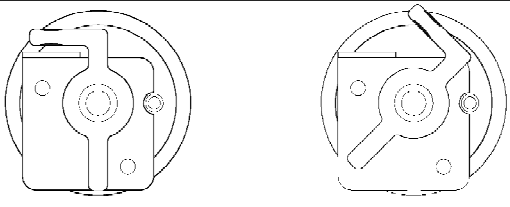
HAZARDS

1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.





BIS - Battery Isolator Switch



OFF **ON**

BIS - Battery Isolator Switch

8.10 Chassis

Check that all bolts and pins are in place and secure.

Check that all guards are fully secured in the closed position.

HAZARDS	
1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.
1509 ISO 1509 ANSI	**PRIOR TO TRANSPORT** Refer this Section, safety information for relevant warning.

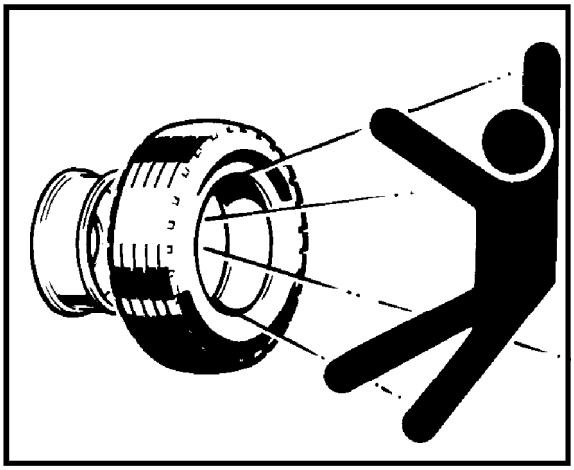
8.10.1 Wheels

Check wheel nuts before every journey.

Check wheel nuts every 150 miles.

After a wheel change, nuts should be checked several times a day until they maintain their correct setting.

(For wheel nut tightening torques, refer to this Section, “adjustment data.”)



8.10 Chassis

8.10.2 Tyres

Check tyres for damage and deterioration before every journey.
Check tyre pressures before every journey.
The tyre pressures must be checked when the tyres are cold.

(For Tyre pressures, refer to this Section "pressures.")

Explosive separation of a tyre and rim parts can cause serious injury or death.

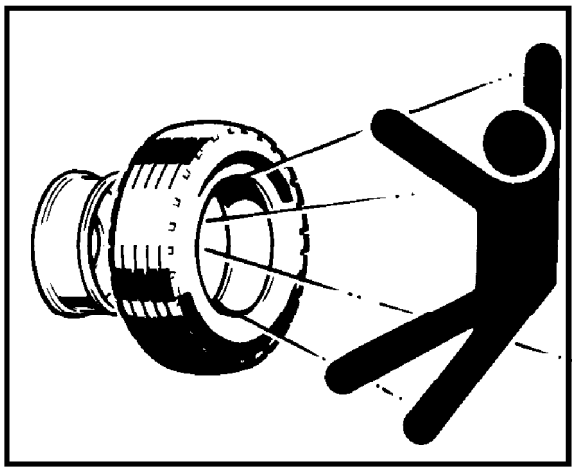
Check wheels for low pressure, cuts, bubbles, damaged rims or missing lug bolts and nuts.

Always maintain the correct tyre pressure. Do not inflate the tyres above the recommended pressure (See this Section, "Pressures. ") When inflating tyres, use a clip-on chuck and extension hose long enough to allow you to stand to one side and not in front or over the tyre assembly. Use a safety cage if available.

Do not attempt to mount a tyre unless you have the proper equipment and experience to perform the job.

Never weld or heat a wheel and tyre assembly. The heat can cause an increase in tyre pressure resulting in a tyre explosion. Welding can also structurally weaken or deform the wheel.

HAZARDS	
1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.
1509 ISO 1509 ANSI	**PRIOR TO TRANSPORT** Refer this Section, safety information for relevant warning.



8.11 Hydraulic system

NOTICE

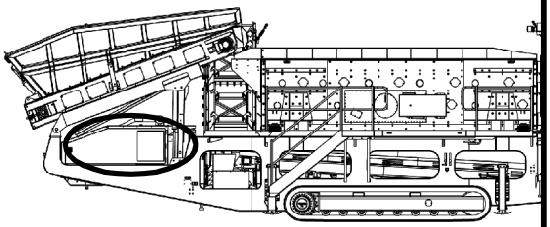
The air vents in the cap must be kept open to allow the hydraulic system to "breathe."

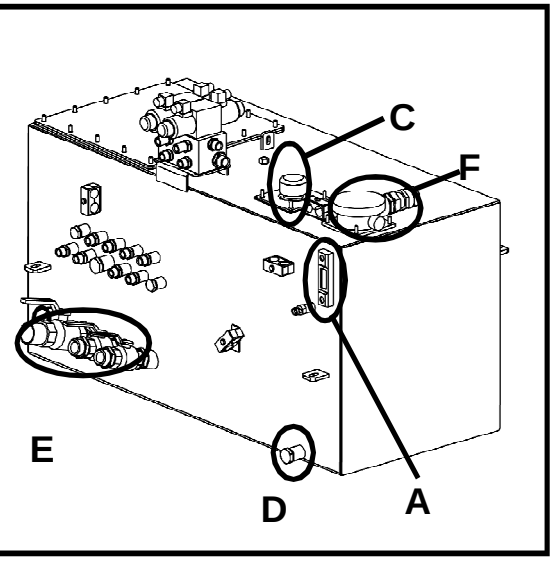
Always use the correct grade of oil, otherwise overheating will occur. (Refer this Section, "lubricants and fluids.")

If the hydraulic system requires filling up on a regular basis, all hydraulic parts and hoses should be inspected for leaks. Any repairs should be made prior to continued operation of the machine.

ALWAYS practice extreme cleanliness when servicing.

HAZARDS	
1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.
1504 ISO 1504 ANSI	**FLUID INJECTION HAZARD** Refer this Section, safety information for relevant warning.





A Hydraulic Oil Level Indicator

C Filler Cap

D Drain Plug

E Suction Filters

F Return Line Filter

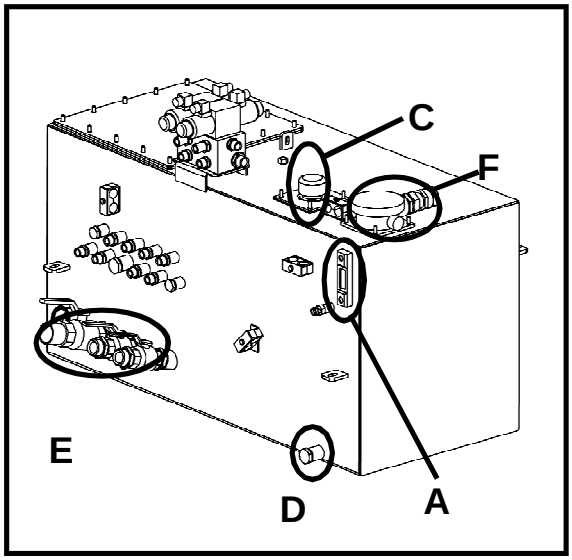
8.11.1 Hydraulic oil

8.11.1.1 Check hydraulic oil level

HAZARDS	
1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.
1504 ISO 1504 ANSI	**FLUID INJECTION HAZARD** Refer this Section, safety information for relevant warning.

PROCEDURE

1. Observe all safety warnings.
2. Machine must be on level ground.
3. Always have the hydraulic oil at normal operating temperature.
4. Always have all cylinders retracted (where possible).
5. Check the level indicator (A.)
   The oil level must be between the red and black marks on the gauge.



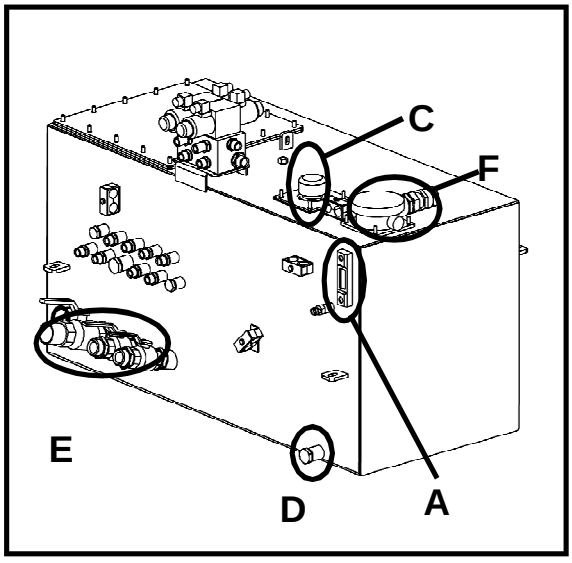
8.11.1 Hydraulic oil

8.11.1.2 Adding hydraulic fluid

HAZARDS	
1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.
1504 ISO 1504 ANSI	**FLUID INJECTION HAZARD** Refer this Section, safety information for relevant warning.

PROCEDURE

1. Observe all safety warnings.
2. Machine must be on level ground.
3. Always have all cylinders retracted (where possible).
4. Implement lock-out procedure.
5. Clean the area around the filler cap (C.)
6. Open the filler cap (C.)
7. Fill the tank to midway between red and black marks on the level indicator.
   (Correct grade of hydraulic oil see this Section, “lubricants and fluids.”)



NOTICE

Never overfill the hydraulic tank as this will cause leakage from the filler cap.

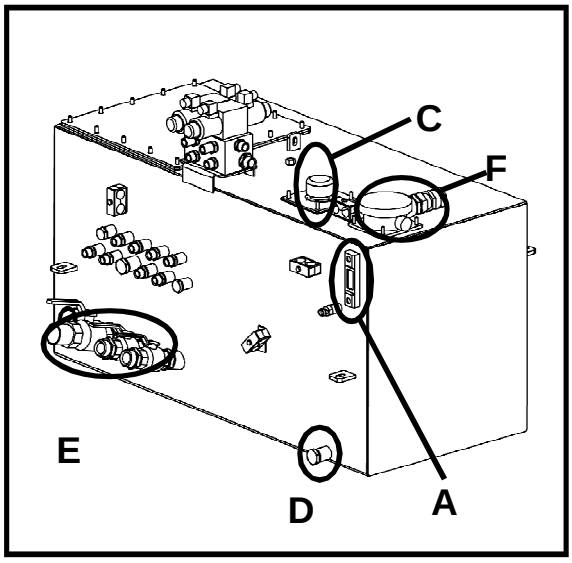
8.11.1 Hydraulic oil

8.11.1.3 Change hydraulic oil

HAZARDS	
1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.
1504 ISO 1504 ANSI	**FLUID INJECTION HAZARD** Refer this Section, safety information for relevant warning.

PROCEDURE

1. Observe all safety warnings.
2. Always have the hydraulic oil at normal operating temperature.
3. Always have all cylinders retracted (where possible.)
4. Drain the tank by removing the drain plug (D.)



NOTICE

ALWAYS practice extreme cleanliness when servicing.
Before removing the drain plug (D.)

a) Release any pressure in the hydraulic tank by slowly unscrewing the filler cap (C.)

b) Ensure a suitable container is placed on the ground to catch the full capacity of oil in the tank.

c) Remember to stand on one side to avoid oil which will spill from the drain hole.

5. Remove the cover plate under the filler cap (C.) Discard the gasket.

8.11.1 Hydraulic oil

8.11.1.3 Change hydraulic oil - CONTINUED

6. Remove the suction filters (E) by unscrewing them from the suction pipes.

7. Flush out the tank with clean hydraulic oil taking extreme care to remove all dirt and foreign matter.

8. Fit new suction filters (E) to the suction pipes.

NOTICE

Change the suction elements when an oil change is being carried out.

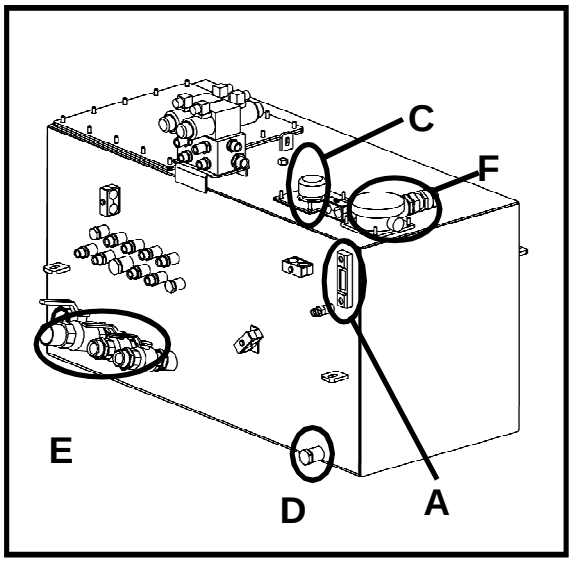
9. Re-fit cover plate to the tank using a new gasket and refit drain plug (D.)

10. Change the return line filter element (refer this Section.)

11. Refill the tank with clean hydraulic oil to midway between the red and black marks on level indicator. (Correct grade of hydraulic oil see this Section, “lubricants and fluids.”)

12. Run the engine to circulate the oil. Operate the hydraulic controls to purge any air from the system.

13. Stop the engine and fill up the system as required.



8.11.2 Return line filter

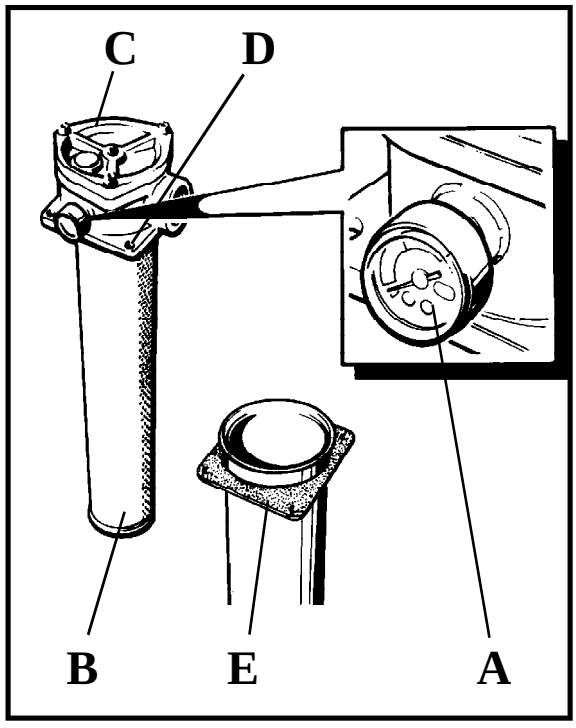
8.11.2.1 Check return line filter

HAZARDS

1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.
1504 ISO 1504 ANSI	**FLUID INJECTION HAZARD** Refer this Section, safety information for relevant warning.

PROCEDURE

1. Observe all safety warnings.
2. Always have the engine running at maximum speed.
3. Always have all hydraulic equipment working.
4. Always have the hydraulic oil at normal operating temperature.
5. Check the return line filter blockage indicator (A.)
6. Change the filter element immediately when the green sector of the blockage indicator goes to red.



NOTICE

Red indicates no filtration.

Always change the filter element Immediately when the indicator shows red.

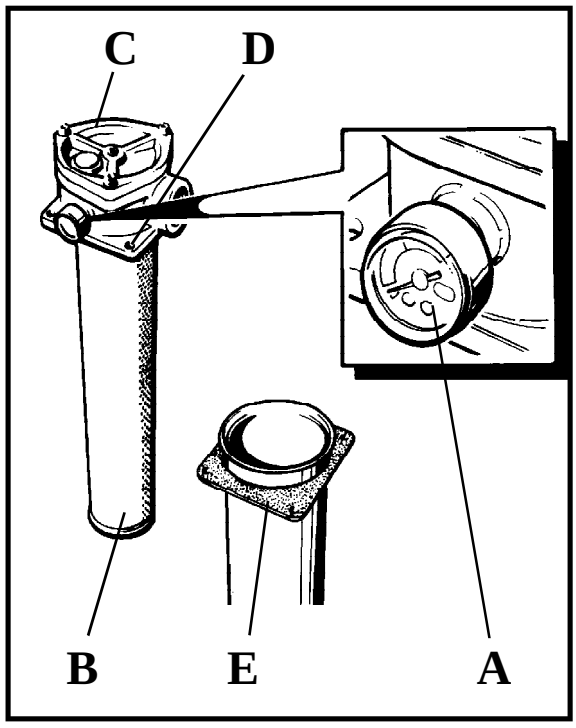
8.11.2 Return line filter

8.11.2.2 Change return line filter

PROCEDURE

HAZARDS	
1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.
1504 ISO 1504 ANSI	**FLUID INJECTION HAZARD** Refer this Section, safety information for relevant warning.

1. Observe all safety warnings.
2. Release any pressure in the hydraulic tanks by slowly unscrewing the filler cap.
3. Clean the outside of the filter housing (C.)
4. Remove the filter by unscrewing the retaining bolts (D.)
5. Lift out the old element (B) and discard it safely.
6. Wash out the filter cap and dry with an air hose. DO NOT USE A RAG.
7. Re-fit new filter ensuring seal ring (E) is in good condition and correctly positioned.
8. Tighten cap securely.



8.12 Maintenance schedules

8.12.1 Preventitive CAT/PERKINS Maintenance schedules

The schedules which follow must be applied at the interval (hour or months) which occur first:

A First service at 20/40 hours
B Every day or every 8 hours
C Every 250 hours or 6 months
D Every 500 hours or 12 months
E Every 1000 hours
F Every 2000 hours
G Every 8000 hours

A	B	C	D	E	F	G	Operation
■	■						Check the amount of coolant in the header tank
	■						Check the engine for leakage of oil and coolant
			■				Check the specific gravity of the coolant
■		■					Check the tension and condition of the drive belts
			■				Clean the sediment chamber and the strainer of the fuel lift pump
		■					Check for water in the pre-filter bowl (or earlier if your fule supply is contaminated
			■				Renew the element(s) of the fuel filter(s)
■							Ensure that the idle speed is cheked and adjusted. If it is necessary
	■						Check the amount of lubricant oil in the sump
	■						Check the lubricating oil pressure at the guage
■		■					Renew the engine lubricating oil
■		■					Renew the canister (s) of the lubricating oil filter
					■		Clean the gauge element of the engine open breather system
						■	Renew the open/closed breather assembly
							Empty the dust bowl of the air filter
■	■						extremely dusty conditions
		■					normal conditions
			■				Clean or renew the air filter element, if it has not been indicated earlier
					■		Ensure that the turbo charger impeiler and turbocharger compressor casing are cleaned
		■					Check all hoses and connections
		■					Clean the compressor air filter
					■		Ensure that the exhauster or compressor is checked
■		■					Check all electris cables and connections
■				■			Ensure that the valve tip clearances of the engine are checked and, if necessary adjusted
						■	Ensure that the alternator and the starter motor are checked

8.12 Maintenance schedules (Operating hours)

8.12.2 Daily (10 hour) maintenance schedule (Machine stopped)

	Construction unit/ object	Job	Remarks	Sign
	VIEW CONTROL			
	Guards	check/ replace		
	Pipelines	check/ replace		
	Valves	check/ replace		
	Bolts and pins	check/ fasten/ replace		
	ENGINE	*See engine operation manual*		
	Coolant level	check/ top up		
	Engine oil level	check/ top up		
	Hydraulic oil level	check/ top up		
	Fuel tank level	check/ top up		
	MOVING PARTS			
	Material build up	remove		
	Moving free	check/ ensure		
	SCREEN UNIT			
	Material build up	remove		
	Screen meshes, wear	check/ replace		
	Screen meshes, tension	check/ tune		
	Rubber cushions	check/ replace		

8.12.2 Daily (10 hour) maintenance schedule (machine running)

	Construction unit/ object	Job	Remarks	Sign
	POWER UNIT			
	Return line filter	check/ replace		
	BELTS			
	Alignment	check/ align		
	Tension	check/tension		
	SCREEN UNIT			
	Operation	check		
	Vibration	check/ tune		
	Screen shaft speed	check/adjust		

8.12.3 Weekly (50 hour) maintenance schedule (machine stopped)

	Construction unit/ object	Job	Remarks	Sign
	FIRST			
	Carry out daily (10 hour) maintenance schedule			
	FEEDER HOPPER			
	Skirting rubbers	check / adjust / replace		
	Feeder gearbox oil	change		
	Belt cleaners	check / adjust		
	MAIN CONVEYOR			
	Belt cleaners	check / adjust / replace		
	AUXILLIARY/ SIDE CONVEYORS			
	Belt cleaners	check / adjust / replace		
	TAIL CONVEYOR			
	Belt cleaners	check / adjust / replace		
	SCREEN UNIT - 2 DECK			
	Inner Bearings	grease		
	Outer Bearings	grease		
	SCREEN UNIT - 3 DECK			
	Bearings - Over cap	grease		
	Screen bearings	oil change / replace		
	POWER UNIT			
	After first 50 hours carry out a full engine service			
	Engine air filter pre cleaner	clean out		
	Battery electrolyte level	check / top up		

8.12.4 Weekly (100 hour) maintenance schedule (machine stopped)

	Construction unit/ object	Job	Remarks	Sign
	FIRST			
	Carry out daily (10 hour) maintenance schedule			
	Carry out weekly (50 hour) maintenance schedule			
	FEEDER CONVEYOR			
	Tail drum bearings	grease		
	Drive drum bearings	grease		
	MAIN CONVEYOR			
	Tail drum bearings	grease		
	Drive drum bearings	grease		
	AUXILLIARY/ SIDE CONVEYORS			
	Tail drum bearings	grease		
	Drive drum bearings	grease		
	TAIL CONVEYOR			
	Tail drum bearings	grease		
	Drive drum bearings	grease		

8.12.5 250 hour maintenance schedule (machine stopped)

	Construction unit/ object	Job	Remarks	Sign
	FIRST			
	Carry out daily (10 hour) maintenance schedule			
	Carry out weekly (50 hour) maintenance schedule			
	Carry out 100 hour maintenance schedule			
	POWERUNIT	*See engine operation manual*		
	Air cleaner elements	Check/adjust		
	Water trap fuel system	empty		

8.12.6 500 hour maintenance schedule (machine stopped)

	Construction unit/ object	Job	Remarks	Sign
	FIRST			
	Carry out daily (10 hour) maintenance schedule			
	Carry out weekly (50 hour) maintenance schedule			
	Carry out 100 hour maintenance schedule			
	Carry out 250 hour maintenance schedule			
	POWERUNIT	*See engine operation manual*		
	Hydraulic oil	Replace		
	Engine oil filter	Replace		
	Fuel Filter	Replace		
	Air cleaner inner element	Replace		
	V-belt tolerance	Check/adjust		
	Engine Speed	Check/adjust		
	Hydraulic return line filter	Replace		

8.12.7 1000 hour maintenance schedule (machine stopped)

	Construction unit/ object	Job	Remarks	Sign
	FIRST			
	Carry out daily (10 hour) maintenance schedule			
	Carry out weekly (50 hour) maintenance schedule			
	Carry out 100 hour maintenance schedule			
	Carry out 250 hour maintenance schedule			
	Carry out 500 hour maintenance schedule			
	POWERUNIT	*See engine operation manual*		
	Hydraulic oil	Replace		

8.12.8 2000 hour maintenance schedule (machine stopped)

	Construction unit/ object	Job	Remarks	Sign
	FIRST			
	Carry out daily (10 hour) maintenance schedule			
	Carry out weekly (50 hour) maintenance schedule			
	Carry out 100 hour maintenance schedule			
	Carry out 250 hour maintenance schedule			
	Carry out 500 hour maintenance schedule			
	Carry out 1000 hour maintenance schedule			
	POWER UNIT	*See engine operation manual /Engine Maintenance Table*		
	FEEDER GEARBOX			
	Oil change	Replace		

8.13 Lubricants and Fluids

Component	International Spec	Sample
Engine	API CD CF CCMC D4	Shell Fortisol 15W/40 Shell Rimula X 15W/40
Hydraulics - up to 30°C Hydraulics - above 30°C	ISO VG 46 ISO VG 100	Shell Tellus 46 Shell Tellus 100
Anti-Freeze	BS6580 ASTM D3306-74	Shell Safe Anti-Freeze (Ethylene Glycol Based) Shell Save Premium Anti Freeze
General Grease		Shell Alvania EP2
Grease for Screen Bearings		Shell Retinax EP2
Gearbox (RMB O95D series)(Beltfeeder)		Shell Tivella SB synthetic gear oil
Gearbox (Brevini 2090) (Apron)		Shell Tivella SB synthetic gear oil

NOTICE

Always use lubricants and fluids that meet the above international specifications. The Shell grades are for reference only.

8.14 Capacities - Fluid

	CAT C4.4 ACERT
Engine coolant	7.0ltr
Engine oil including filter	11.0ltr
Hydraulic tank	576ltr (153 gal)
Fuel tank	336ltr (89 gal)

8.15 Adjustment Data

Engine speed	2200rpm
Screen shaft speed	970rpm ±10rpm

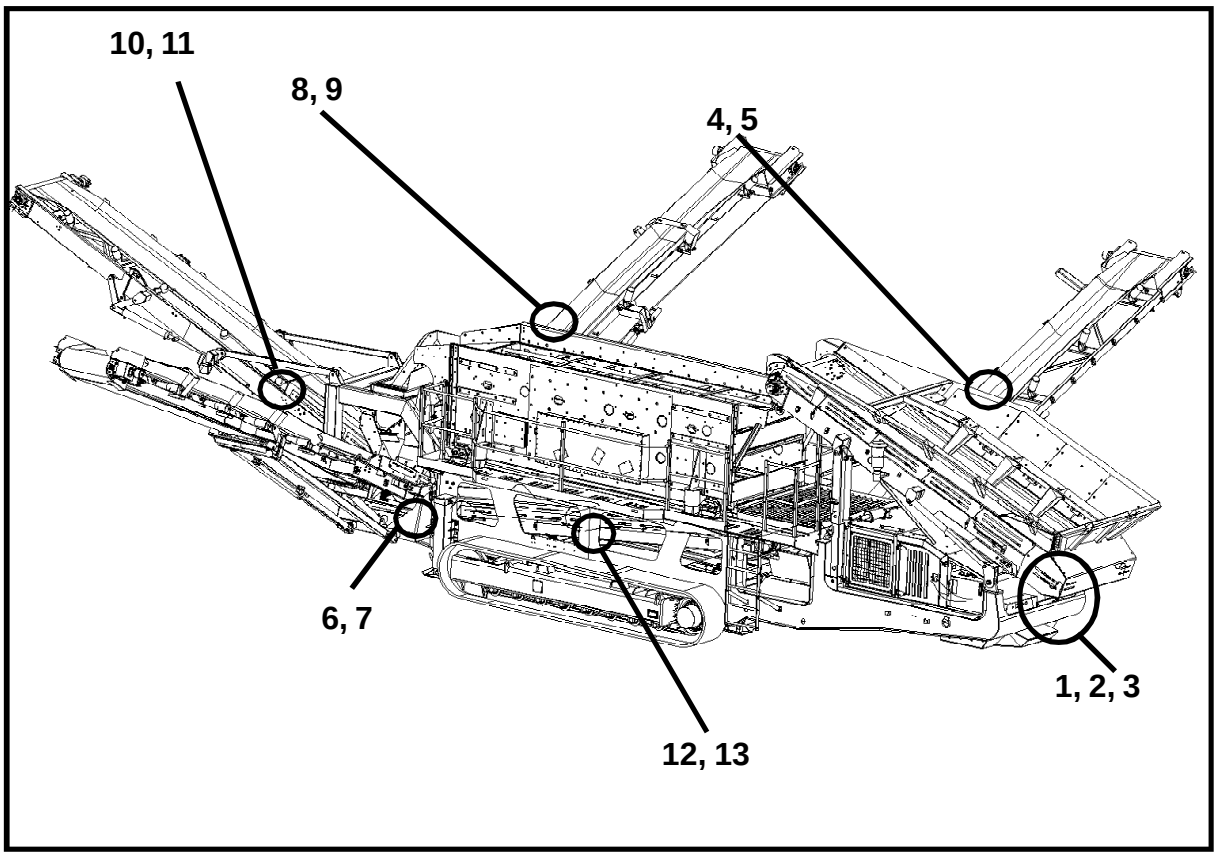
8.16 Pressures

Hydraulic system	210bar (3000psi)
Hydraulic hoses	Pressure rating refer to section 1, “Technical Information.“

8.17 Greasing schedule (Lhs and Rhs)

(Please note: 20 Grams = approx. 13 grease gun strokes)

AREA	DESCRIPTION	FREQUENCY	GREASE GUN STROKES
1.	Feeder Conveyor Tail Drum Bearings Lh/Rh	100 HRS	2
2.	Apron Feeder Tail Drum Bearings Lh/Rh	100 HRS	2
3.	Apron Feeder Drive Drum Bearings Lh/Rh	100 HRS	2
4.	Fines Conveyor Tail Drum Bearing Lh/Rh	100 HRS	2
5.	Fines Conveyor Drive Drum Bearing Lh/Rh	100 HRS	2
6.	Oversize Tail Drum Bearings Lh/Rh	100 HRS	2
7.	Oversize Drive Drum Bearings Lh/Rh	100 HRS	2
8.	Mid-Fines Tail Drum Bearings Lh/Rh	100 HRS	2
9.	Mid-Fines Drive Drum Bearings (Lh/Rh)	100 HRS	2
10.	Tail Conveyor Tail Drum Bearings (Lh/Rh)	100 HRS	2
11.	Tail Conveyor Drive Drum Bearings (Lh/Rh)	100 HRS	2
12.	Collection Conveyor Tail Drum Bearings (Lh/Rh)	100 HRS	2
13.	Collection Conveyor Drive Drum Bearings (Lh/Rh)	100 HRS	2



8.18 Recommended Lubricants

	Ambient Temperature 40 to 95° F 4 to 35° C	Ambient Temperature 0 to 65° F -18 to 18° C
AMOCO	Industrial Oil 220	Industrial Oil 150
CHEVRON	AW Machine Oil 220	AW Machine Oil 150
EXXON	Teresstic 220	Teresstic 150
MOBIL	DTE Oil BB	DTE Oil Extra Heavy
SHELL	Turbo 220	Turbo 150
TEXACO	Regal R & O 220	Regal R & O 150

If ambient temperature exceeds 95° F (35°C) then ISO grade 320 should be used

Flushing Oil : Use iso viscosity grade 46 lubricant

Table of contents **Page**

Table of contents **Page**

Table of contents **Page**

8.1 General information

When performing maintenance, always observe rules provided in the safety section.

Breakdown caused by insufficient or improper maintenance will cause high repair costs and long term standstill. Therefore, regular maintenance is imperative.

In addition to several other factors, the reliability and life of the H5163 depends on regular and proper maintenance.

The following section contains maintenance instructions as well as maintenance schedules for normal operating conditions.

NOTICE

When the H5163 is operated in extreme climatic conditions (e.g. below -15°C or above 33°C) or in very dusty conditions for a long period of time, the maintenance schedules will change.
Ask your local POWERSCREEN dealer or POWERSCREEN Aftersales Technical Department for advice.

The machine has been designed to facilitate easy routine maintenance without the removal of any fixed guards.

All greasing points can be accessed from the ground level or any walkways provided and all belt adjustments can be made without removing any protective guards.

If it is necessary to remove any guard doors, all are fitted with captive nuts and bolts to ensure that they are replaced before the machine is restarted.

PRACTICE SAFE MAINTENANCE.

Read and understand all service and operation procedures before performing maintenance or operating the machine.

Keep work area clean, dry and free from obstacles.

Never lubricate, clean, service or adjust machine while it is running.

Keep hands, feet and clothing clear of power driven parts and in-running nip points.

Before preforming maintenance or repairs:

(1) Disengage all power and operate controls to relieve all pressure.

(2) Stop the engine.

(3) Implement lockout procedure.

(4) Allow the machine to cool.

A raised part of the machine can fall causing serious injuries or death.

Always fit the safety support strut provided if any part of the machine, such as a guard door, must be raised for any reason.

Never work under unsupported equipment.

Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn and broken parts.

Remove any build up of grease, oil or debris.

Disconnect battery ground cable (-) before making adjustments on electrical systems or welding on machine.

8.2 Feeder conveyor (A2)

8.2.1 Clean & check the conveyor belt

Do not unfasten or remove any guard while the machine is running or start the machine while a guard is unfastened or removed.

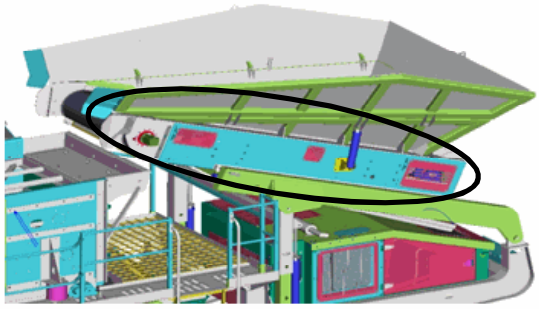
PROCEDURE

1. Observe all safety warnings.
2. Stop the engine.
3. Clean the conveyor belt using a high pressure hose. Ensure that eyes are protected by wearing safety glasses.
4. Check the belt for cuts, tears, rips or any other physical damage.
5. Close and secure the guard doors in the correct position.

If any damage to the belt is found, do not operate the machine until it is repaired or replaced entirely by your local POWERSCREEN dealer.

HAZARDS

1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.
1508 ISO 1508 ANSI	**FALL HAZARD** Refer this Section, safety information for relevant warning.
1502 ISO 1502 ANSI	**ENTANGLEMENT MANUAL** Refer this Section, safety information for relevant warning.



H5163 - APRON

H5163 - INCLNE

8.2 Feeder conveyor (A2)

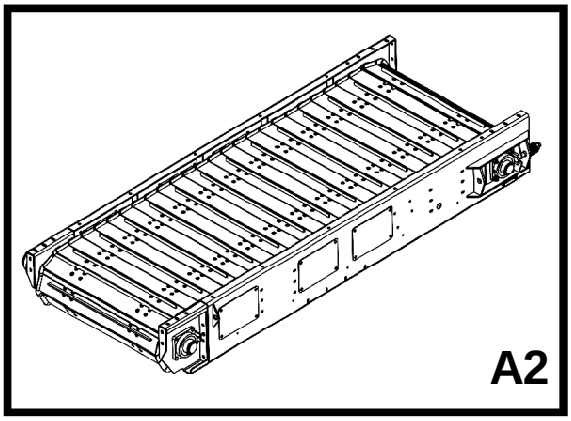
8.2.2 Tensioning the feeder conveyor belt

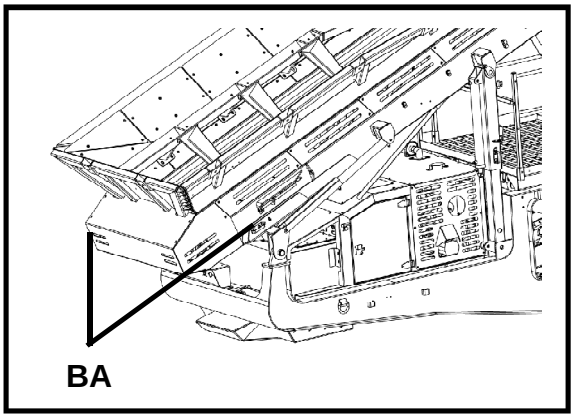
HAZARDS

1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.
1508 ISO 1508 ANSI	**FALL HAZARD** Refer this Section, safety information for relevant warning.

PROCEDURE

1. Observe all safety warnings.
2. Start the feeder conveyor. (Refer to Section 6, “Operating instructions.”)
3. Run the feeder conveyor at desired speed.
4. Tighten the belt by adjusting both belt adjusters **(BA)** evenly





NOTICE

Do not overtension the belt as this will damage the drum bearings.

8.2 Feeder conveyor (A2)

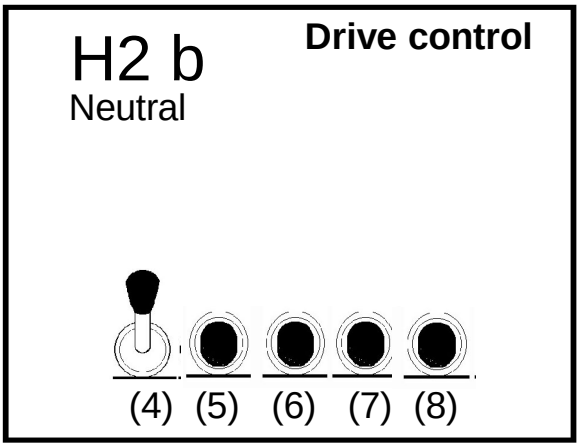
8.2.3 Feeder conveyor alignment

HAZARDS

1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.

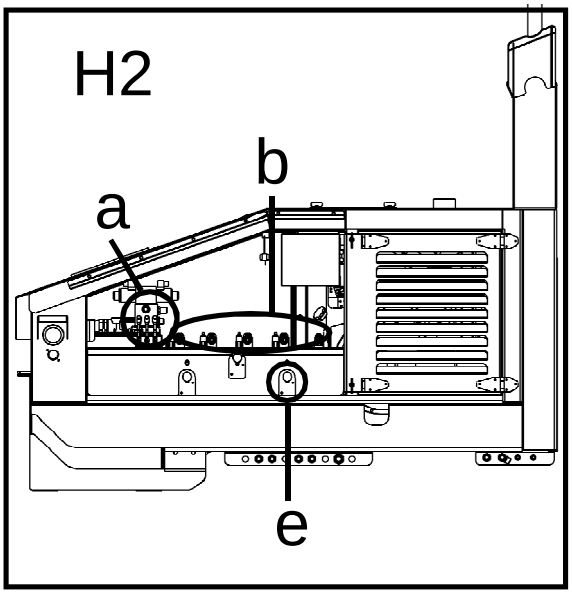
PROCEDURE

1. Observe all safety warnings.



2. Start the feeder conveyor. **(H2 - LEVER B4 - RAISE)** (Refer to Section 6, “Operating instructions.”)

3. Turn control knob of the variable-speed control valve COUNTER-CLOCKWISE to run the feeder conveyor at maximum speed **(H2 - FLOW CONTROL e)**.



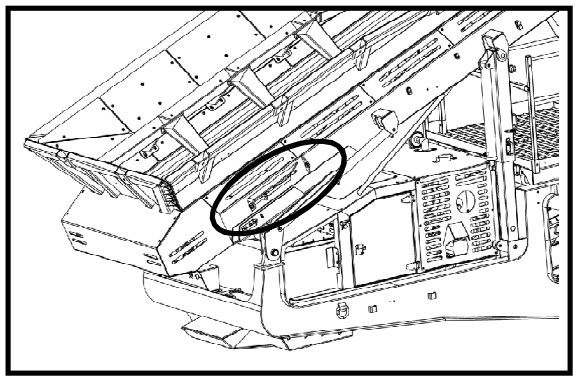
8.2 Feeder conveyor (A2)

8.2.3 Feeder conveyor alignment - CONTINUED

4. Observe the conveyor through the viewing apertures and determine to which side the conveyor is "tracking off. "

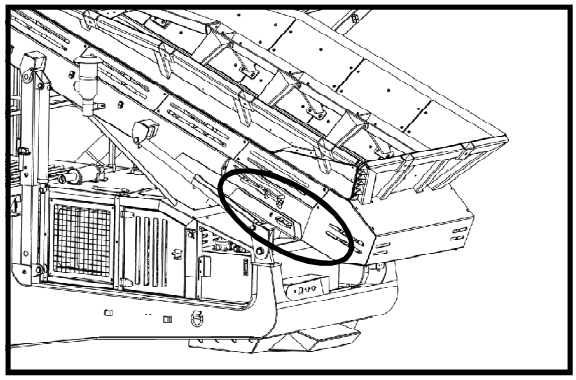
Do not unfasten or remove any guard while the machine is running or start the machine while a guard is unfastened or removed.

5. The conveyor is tracking off to the right side.



Solution
Operate the right side adjuster - one turn at a time until the belt tracks correctly.

The conveyor is tracking off to the left side.



Solution
Operate the left side adjuster - one turn at a time until the belt tracks correctly.

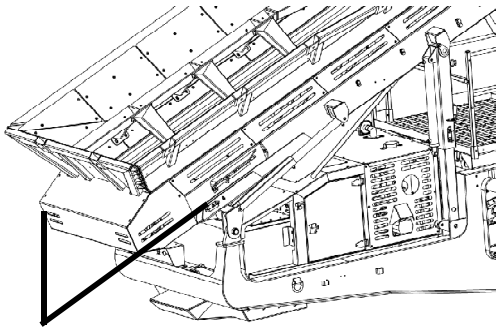
8.2 Feeder conveyor (A2)

8.2.4 Tensioning the APRON feeder conveyor belt

HAZARDS	
1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.
1508 ISO 1508 ANSI	**FALL HAZARD** Refer this Section, safety information for relevant warning.

PROCEDURE

1. Observe all safety warnings.
2. Start the feeder conveyor. (Refer to Section 6, “Operating instructions.”)
3. Run the feeder conveyor at desired speed.
4. Tighten the belt by adjusting both belt adjusters evenly



BA

NOTICE

Do not overtension the belt as this will damage the drumbearings.

8.3 Collection conveyor (F)

8.3.1 Clean & check the conveyor belt

Do not unfasten or remove any guard while the machine is running or start the machine while a guard is unfastened or removed.

PROCEDURE

1. Observe all safety warnings.
2. Stop the engine.
3. Clean the conveyor belt using a high pressure hose. Ensure that eyes are protected by wearing safety glasses.
4. Check the belt for cuts, tears, rips or any other physical damage.

If any damage to the belt is found, do not operate the machine until it is repaired or replaced entirely by your local POWERSCREEN dealer.

HAZARDS	
1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.
1508 ISO 1508 ANSI	**FALL HAZARD** Refer this Section, safety information for relevant warning.
1502 ISO 1502 ANSI	**ENTANGLEMENT MANUAL** Refer this Section, safety information for relevant warning.

Collection conveyor (F)

8.3 Collection conveyor (F)

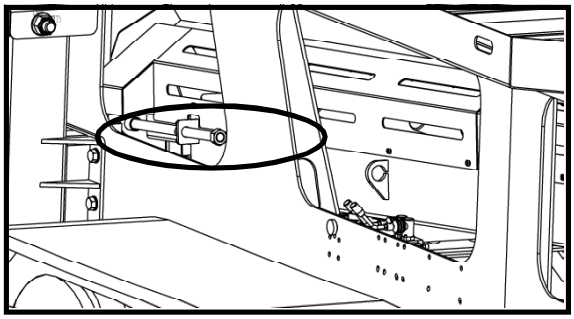
8.3.2 Tensioning the collection conveyor belt

PROCEDURE

1. Observe all safety warnings.
2. Start the collection conveyor. (Refer to Section 6, “Operating instructions.”) **(H2- LEVER 7 - RAISE)**
3. Run the collection conveyor at desired speed **(H2- FLOW CONTROL C)**.
4. Tighten the belt by adjusting both belt adjusters evenly (BA), 2 turns at a time until slippage stops.

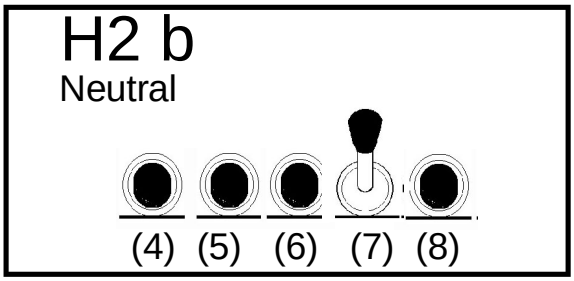
NOTICE

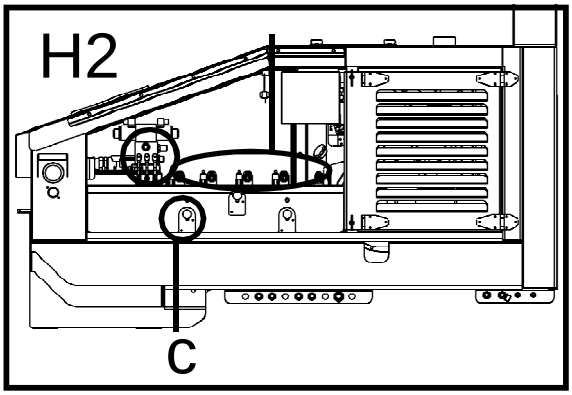
Do not over tension the belt as this will damage the drum bearings.

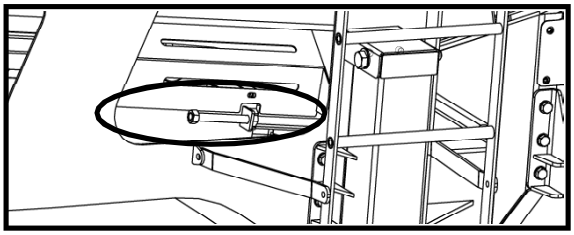


HAZARDS

1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.







8.3 Collection conveyor (F)

8.3.3 Collection conveyor alignment

HAZARDS

1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.
1508 ISO 1508 ANSI	**FALL HAZARD** Refer this Section, safety information for relevant warning.
1502 ISO 1502 ANSI	**ENTANGLEMENT MANUAL** Refer this Section, safety information for relevant warning.

PROCEDURE

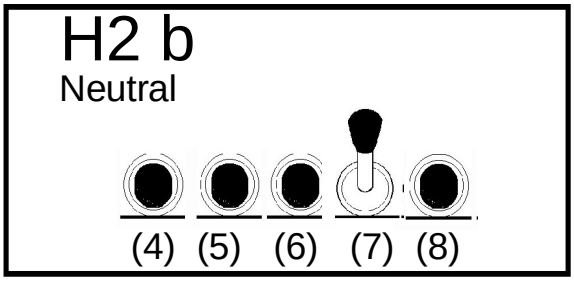
1. Observe all safety warnings.

2. Start the collection conveyor. (Refer to Section 6, “Operating instructions.”)

3. Move up collection conveyor lever to start collection conveyor **(H2-LEVER 7 - RAISE)**.

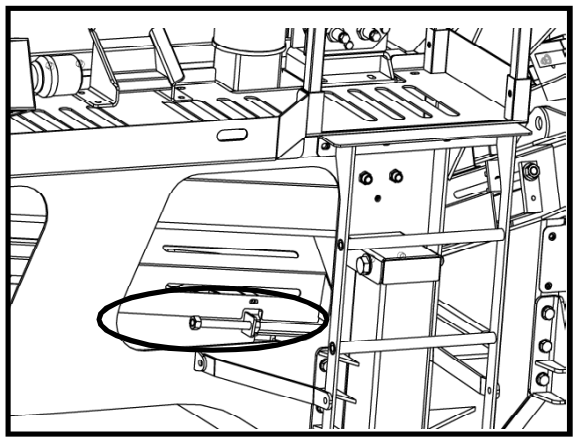
4. Observe the conveyor through the viewing aperatures and determine to which side the conveyor is „tracking off.“

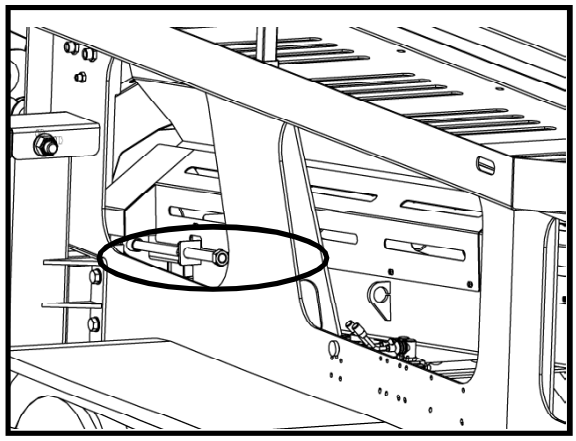
Collection conveyor (F)



8.3 Collection conveyor (F)

8.3.3 Collection conveyor alignment - CONTINUED





Do not unfasten or remove any guard while the machine is running or start the machine while a guard is unfastened or removed.

5. The conveyor is tracking off to the right side.

   Solution
   Operate the right side adjuster - one turn at a time until the belt tracks correctly.

   The conveyor is tracking off to the left side.

   Solution
   Operate the left side adjuster - one turn at a time until the belt tracks correctly.

8.4 FINES side conveyor (E)

8.4.1 Clean & check the conveyor belt

Do not unfasten or remove any guard while the machine is running or start the machine while a guard is unfastened or removed.

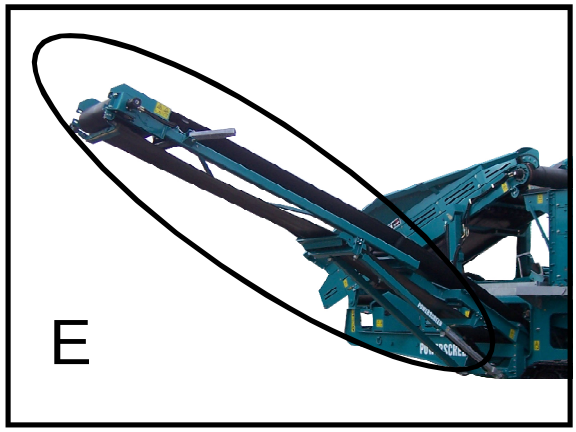
PROCEDURE

1. Observe all safety warnings.
2. Stop the engine.
3. Clean the conveyor belt using a high pressure hose. Ensure that eyes are protected by wearing safety glasses.
4. Check the belt for cuts, tears, rips or any other physical damage.

If any damage to the belt is found, do not operate the machine until it is repaired or replaced entirely by your local POWERSCREEN dealer.

HAZARDS

1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.
1508 ISO 1508 ANSI	**FALL HAZARD** Refer this Section, safety information for relevant warning.
1502 ISO 1502 ANSI	**ENTANGLEMENT MANUAL** Refer this Section, safety information for relevant warning.



NOTICE

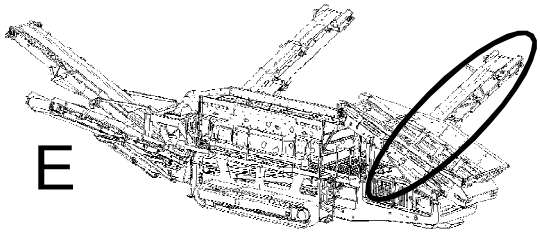
The screenbox and FINES side conveyor operate together.

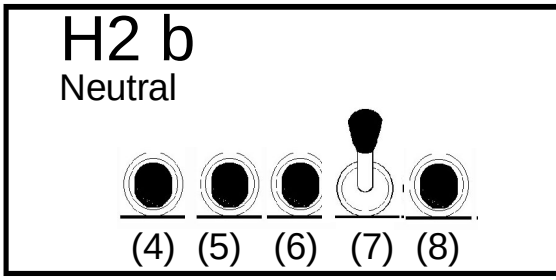
8.4 FINES side conveyor (E)

8.4.2 Tensioning the FINES side conveyor belt

HAZARDS

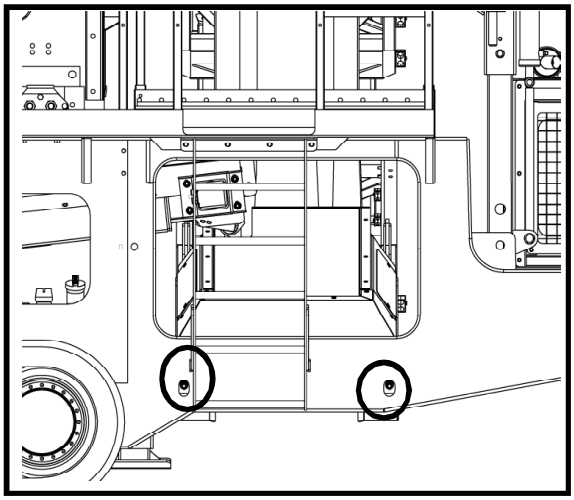
1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.





PROCEDURE

1. Observe all safety warnings.
2. Start the FINES conveyor. (Refer to Section 6, “Operating instructions.”)
3. Run the FINES side conveyor at desired speed.
4. Tighten the belt by adjusting both belt adjusters evenly, 2 turns at a time until slippage stops.



NOTICE

Do not over tension the belt as this will damage the drum bearings.

8.4 FINES side conveyor (E)

8.4.3 FINES side conveyor alignment

PROCEDURE

1. Observe all safety warnings.

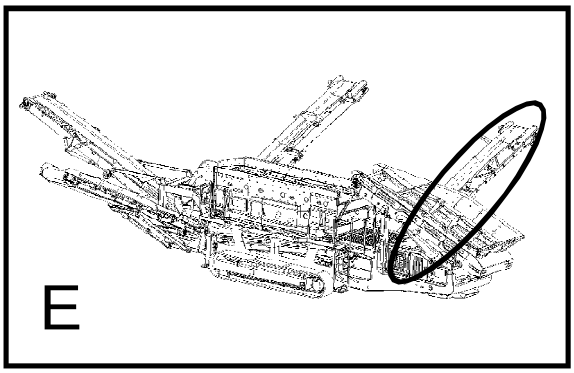
2. Start the FINES conveyor. (Refer to Section 6, “Operating instructions.”)

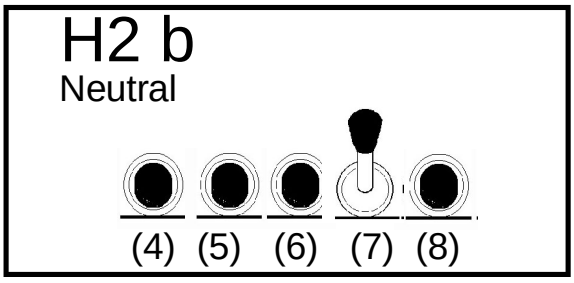
3. Move up collection and fines side conveyor lever to start fines side conveyor **(H2-Lever 7 - RAISE)**.

4. Observe the conveyor through the viewing aperatures (BA) and determine to which side the conveyor is “tracking off.“

HAZARDS

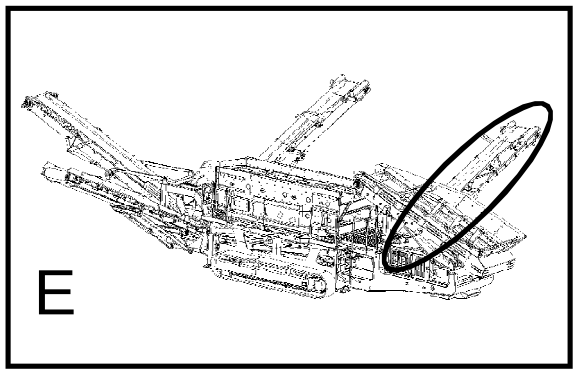
1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.
1508 ISO 1508 ANSI	**FALL HAZARD** Refer this Section, safety information for relevant warning.
1502 ISO 1502 ANSI	**ENTANGLEMENT MANUAL** Refer this Section, safety information for relevant warning.



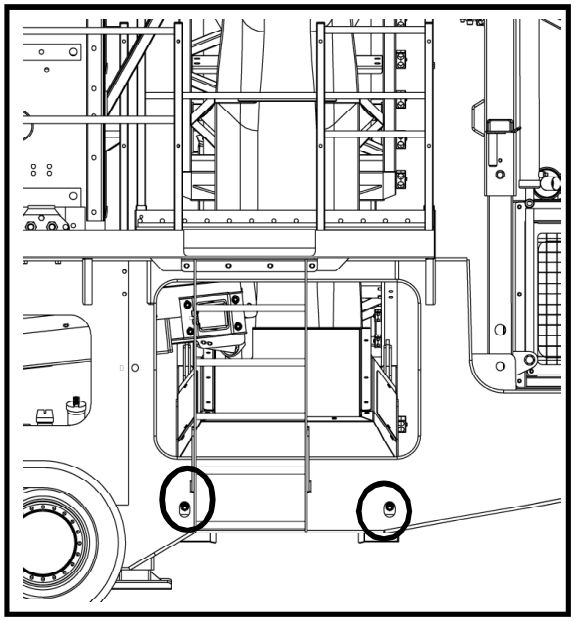


8.4 FINES side conveyor (E)

8.4.3 FINES side conveyor alignment - CONTINUED



Do not unfasten or remove any guard while the machine is running or start the machine while a guard is unfastened or removed.



5. The conveyor is tracking off to the right side.

   Solution
   Operate the right side adjuster - one turn at a time until the belt tracks correctly.

   The conveyor is tracking off to the left side.

   Solution
   Operate the left side adjuster - one turn at a time until the belt tracks correctly.

8.5 MID FINES side conveyor (D)

8.5.1 Clean & check the conveyor belt

Do not unfasten or remove any guard while the machine is running or start the machine while a guard is unfastened or removed.

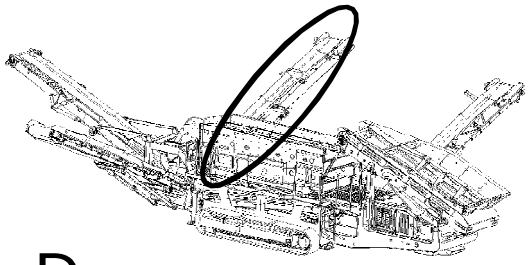
PROCEDURE

1. Observe all safety warnings.
2. Stop the engine.
3. Clean the conveyor belt using a high pressure hose. Ensure that eyes are protected by wearing safety glasses.
4. Check the belt for cuts, tears, rips or any other physical damage.

If any damage to the belt is found, do not operate the machine until it is repaired or replaced entirely by your local POWERSCREEN dealer.

HAZARDS

1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.
1508 ISO 1508 ANSI	**FALL HAZARD** Refer this Section, safety information for relevant warning.
1502 ISO 1502 ANSI	**ENTANGLEMENT MANUAL** Refer this Section, safety information for relevant warning.



NOTICE

The TAIL and MID-FINES side conveyors operate together.

8.5 MID FINES side conveyor (D)

8.5.2 Tensioning the MID-FINES side conveyor belt

HAZARDS

1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.

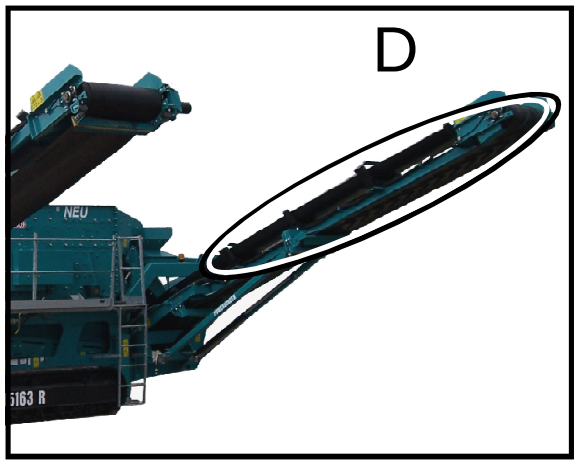
PROCEDURE

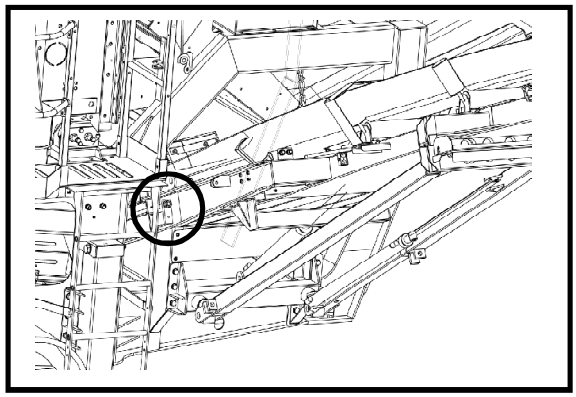
1. Observe all safety warnings.

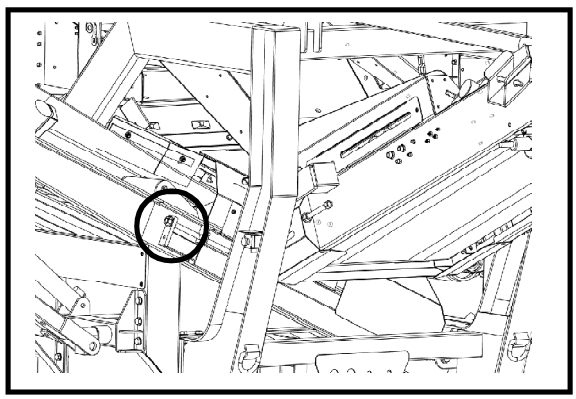
2. Start the MID - FINES conveyor. (Refer to Section 6, “Operating instructions.”)

3. Run the MID-FINES side conveyor at desired speed.

4. Tighten the belt by adjusting both belt adjusters evenly, 2 turns at a time until slippage stops.







NOTICE

Do not over tension the belt as this will damage the drum bearings.

8.5 MID FINES side conveyor (D)

8.5.3 MID-FINES side conveyor alignment

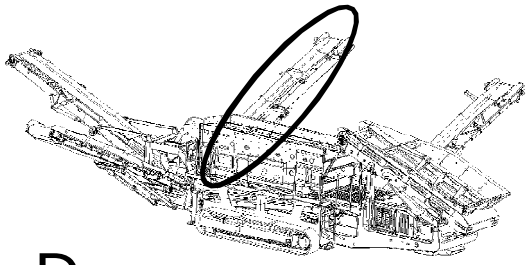
HAZARDS	
1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.
1508 ISO 1508 ANSI	**FALL HAZARD** Refer this Section, safety information for relevant warning.
1502 ISO 1502 ANSI	**ENTANGLEMENT MANUAL** Refer this Section, safety information for relevant warning.

PROCEDURE

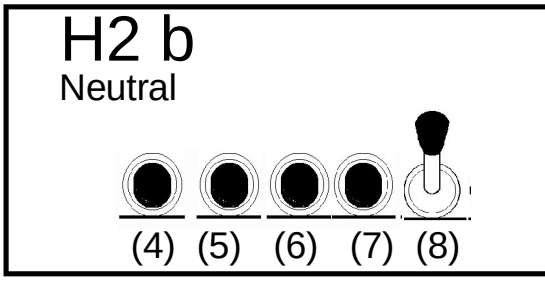
1. Observe all safety warnings.

2. Start the MID- FINES conveyor. (Refer to Section 6, “Operating instructions.”)

3. Move up MID-FINES side conveyor lever to start fines side conveyor **(H2-Lever 8 - RAISE)**.



4. Observe the conveyor through the viewing aperatures and determine to which side the conveyor is “tracking off.“

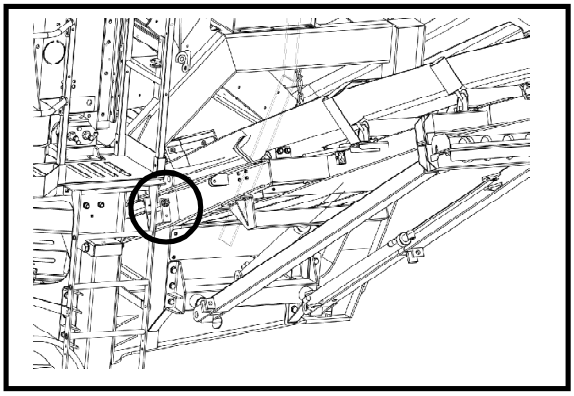


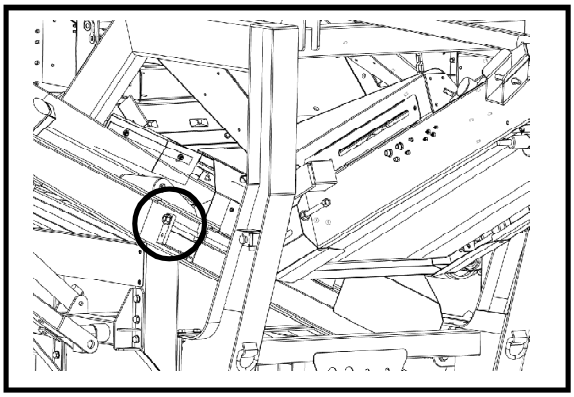
NOTICE

The TAIL and MID-FINES side conveyors operate together.

8.5 MID FINES side conveyor (D)

8.5.3 MID-FINES side conveyor alignment - CONTINED





Do not unfasten or remove any guard while the machine is running or start the machine while a guard is unfastened or removed.

5. The conveyor is tracking off to the right side.

   Solution
   Operate the right side adjuster - one turn at a time until the belt tracks correctly.

   The conveyor is tracking off to the left side.

   Solution
   Operate the left side adjuster - one turn at a time until the belt tracks correctly.

8.6 Tail conveyor (C)

8.6.1 Clean & check the conveyor belt

Do not unfasten or remove any guard while the machine is running or start the machine while a guard is unfastened or removed.

PROCEDURE

1. Observe all safety warnings.
2. Stop the engine.
3. Clean the conveyor belt using a high pressure hose. Ensure that eyes are protected by wearing safety glasses.
4. Check the belt for cuts, tears, rips or any other physical damage.

If any damage to the belt is found, do not operate the machine until it is repaired or replaced entirely by your local POWERSCREEN dealer.

HAZARDS

1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.
1508 ISO 1508 ANSI	**FALL HAZARD** Refer this Section, safety information for relevant warning.
1502 ISO 1502 ANSI	**ENTANGLEMENT MANUAL** Refer this Section, safety information for relevant warning.

C

NOTICE

The TAIL and MID-FINES side conveyors operate together.

8.6 Tail conveyor (C)

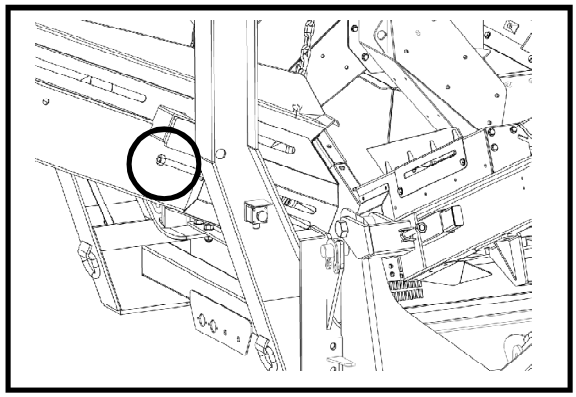
8.6.2 Tensioning the tail conveyor belt

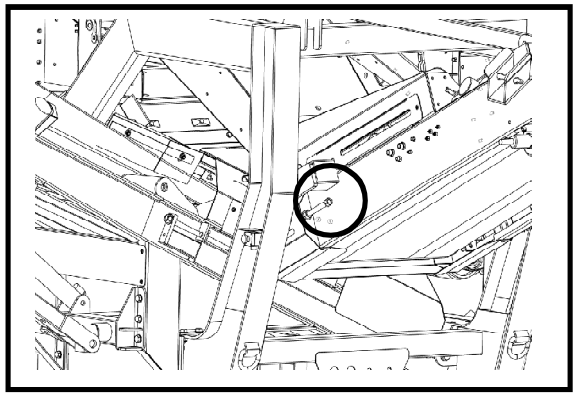
HAZARDS

1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.

PROCEDURE

1. Observe all safety warnings.
2. Start the tail conveyor. (Refer to Section 6, “Operating instructions.”)
3. Tighten the belt by adjusting both belt adjusters (BA), 1 off evenly, 2 turns at a time until slippage stops.





NOTICE

Do not overtension the belt as this will damage the drum bearings.

8.6 Tail conveyor (C)

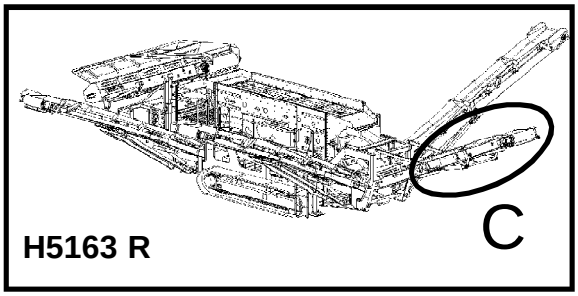
8.6.3 Tail conveyor alignment

PROCEDURE

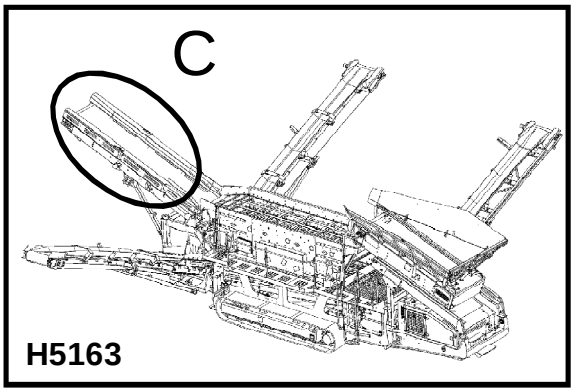
1. Observe all safety warnings.

HAZARDS

1520 / 1513 ISO **1520 / 1513 ANSI**	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO **1532 ANSI**	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.
1508 ISO **1508 ANSI**	**FALL HAZARD** Refer this Section, safety information for relevant warning.
1502 ISO **1502 ANSI**	**ENTANGLEMENT MANUAL** Refer this Section, safety information for relevant warning.

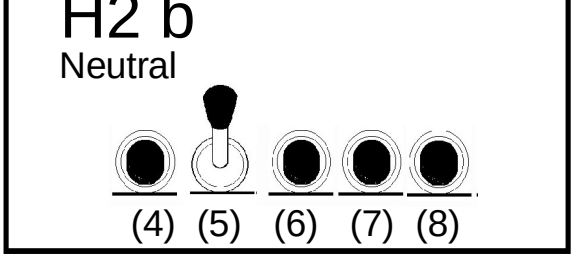


H5163 R

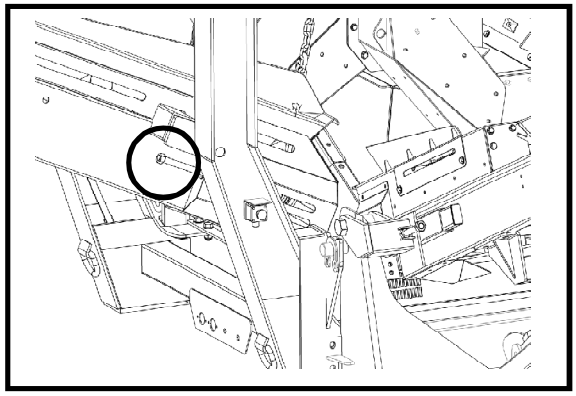


H5163

2. Start the tail conveyor **(H2-Lever 5 - Raise)**. (Refer to Section 6, “Operating instructions.”)

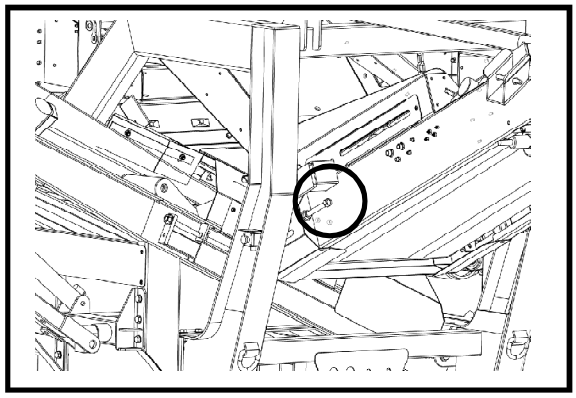


3. Observe the conveyor through the viewing aperatures (BA) and determine to which side the conveyor is “tracking off.“



Do not unfasten or remove any guard while the machine is running or start the machine while a guard is unfastened or removed.

4. The conveyor is tracking off to the right side.



Solution
Operate the right side adjuster - one turn at a time until the belt tracks correctly.

The conveyor is tracking off to the left side.

Solution
Operate the left side adjuster - one turn at a time until the belt tracks correctly.

8.7 LHS side conveyor (G)

8.7.1 Clean & check the conveyor belt

HAZARDS

1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.

Do not unfasten or remove any guard while the machine is running or start the machine while a guard is unfastened or removed.

PROCEDURE

1. Observe all safety warnings.

2. Stop the engine.

3. Clean the conveyor belt using a high pressure hose. Ensure that eyes are protected by wearing safety glasses.

4. Check the belt for cuts, tears, rips or any other physical damage.

LHS Side Conveyor
H5163R

If any damage to the belt is found, do not operate the machine until it is repaired or replaced entirely by your local POWERSCREEN dealer.

8.7 LHS side conveyor (G)

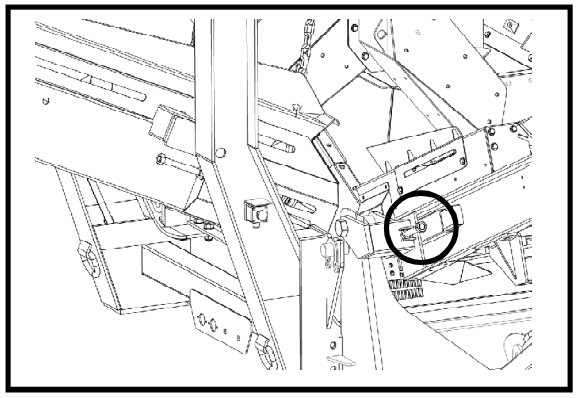
8.7.2 Tensioning the LHS side conveyor belt

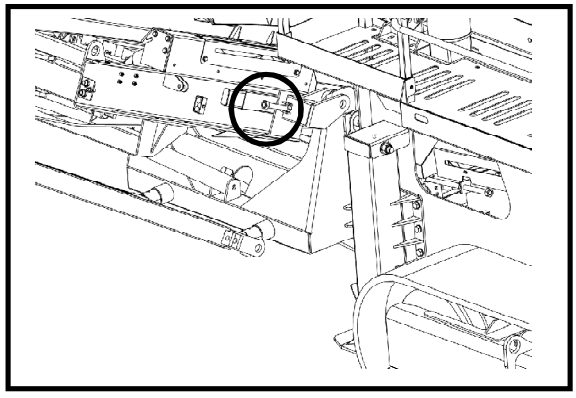
HAZARDS

1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.

PROCEDURE

1. Observe all safety warnings.
2. Start the RH side conveyor. (Refer to Section 6, “Operating instructions.”)
3. Tighten the belt by adjusting both belt adjusters (BA), 1 off evenly, 2 turns at a time until slippage stops.





NOTICE

Do not overtension the belt as this will damage the drum bearings.

8.7 LHS side conveyor

8.7.3 LHS side conveyor alignment

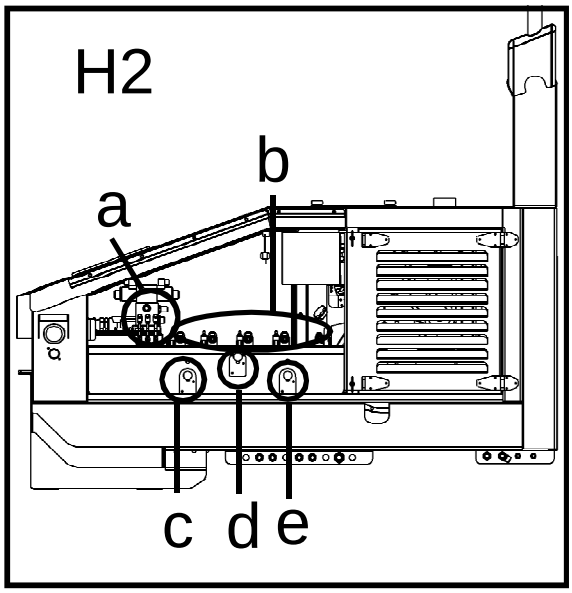
HAZARDS

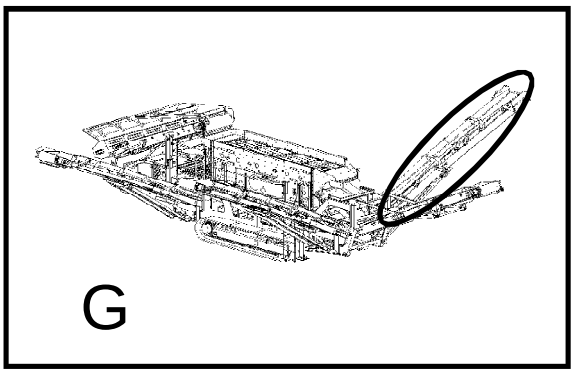
1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.

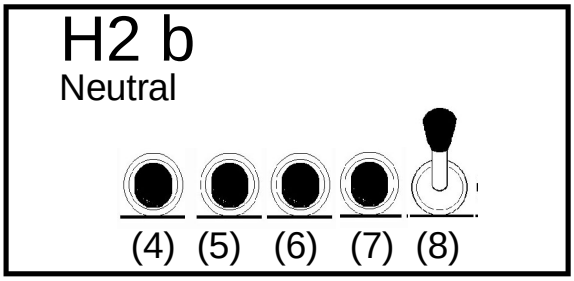
PROCEDURE

1. Observe all safety warnings.

2. Start the LHS side conveyor. **(H2 - LEVER 8 - RAISE)** (Refer to Section 6, “Operating instructions.”)

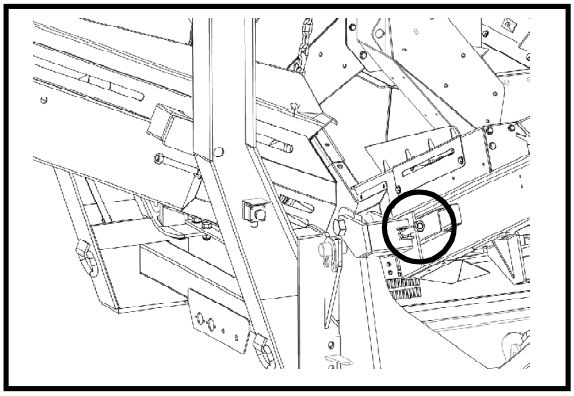


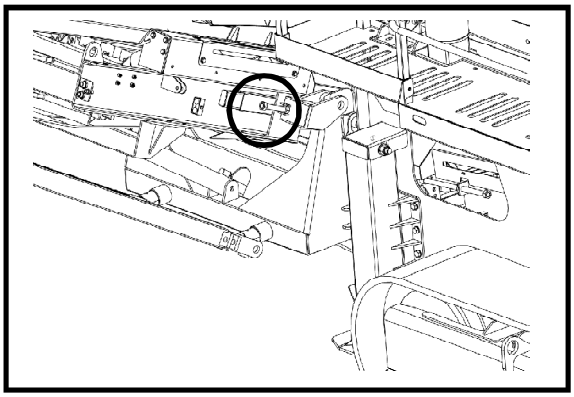




8.7 LHS side conveyor

8.7.3 LHS side conveyor alignment - CONTINUED





3. Observe the conveyor and determine to which side the conveyor is “tracking off. ”

Do not unfasten or remove any guard while the machine is running or start the machine while a guard is unfastened or removed.

4. The conveyor is tracking off to the right side.

   Solution
   Operate the right side adjuster - one turn at a time until the belt tracks correctly.

   The conveyor is tracking off to the left side.

   Solution
   Operate the left side adjuster - one turn at a time until the belt tracks correctly.

8.8 Screenuint

8.8.1 Changing the screen mesh

WARNING **Never allow unqualified personnel to attempt to operate, maintain, remove or replace any part of the machine.**
Never allow anyone to remove large or heavy components without adequate lifting tackle.

PROCEDURE

1. Observe all safety warnings.

2. **REFER TO CEDARAPIDS MANUAL FOR OPERATION AND MAINTENANCE SCREEN UNIT PROCEDURES.**

HAZARDS	
1520 / 1513 ISO **1520 / 1513 ANSI**	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO **1532 ANSI**	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.
1508 ISO **1508 ANSI**	**FALL HAZARD** Refer this Section, safety information for relevant warning.

8.9 Power unit

For any maintenance on the power unit see engine operation manual in Section 9, “Appendix,” “List of attached documentation.”

8.9.1 Fuel system

8.9.1.1 Check fuel level

HAZARDS

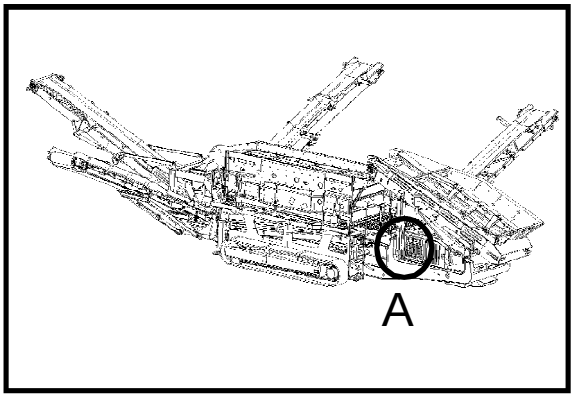
1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.

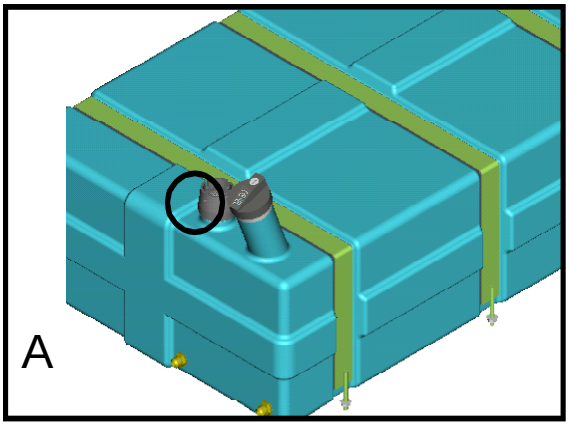
PROCEDURE

1. Observe all safety warnings.

2. Check the level indicator (A.)

3. Fill the tank at the end of each day, where possible, to reduce overnight condensation within the tank.





Diesel fuel is highly flammable.

Never remove filler cap or refuel, with the engine running.

Never add gasoline or any other fuel mixes to diesel because of increased fire or explosion risks.

Do not smoke or carry out maintenance on the fuel system near open flame or sources of sparks, such as welding equipment, etc..

8.9.1 Fuel system

8.9.1.2 Adding fuel

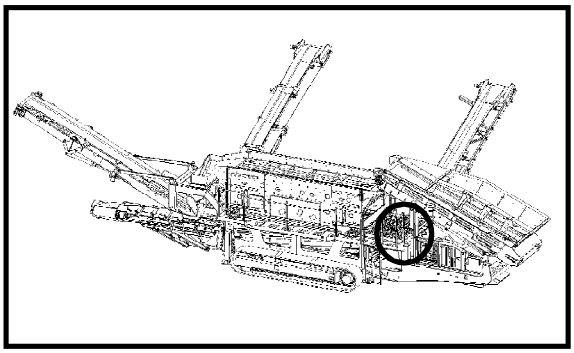
HAZARDS	
1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**LOCKOUT AND TAGOUT** Refer this Section, safety information for relevant warning.

NOTICE

DO NOT fill the tank to capacity.

Monitor gauge on tank side.

Allow room for expansion and wipe up spilt fuel immediately, otherwise paintwork will be damaged.



PROCEDURE

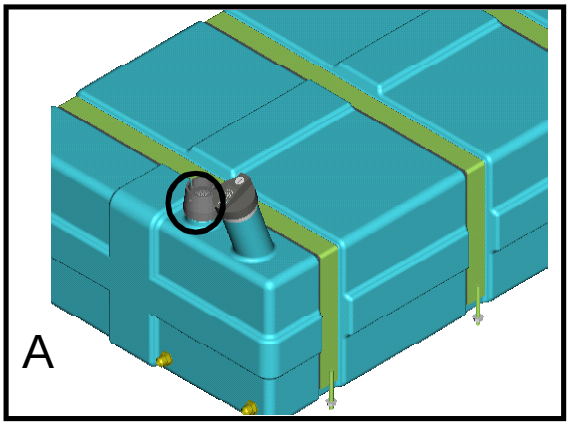
1. Observe all safety warnings.
2. Clean the area around the filler cap.
3. Remove the filler cap.
4. Fill the tank with diesel.

Diesel fuel is highly flammable.

Never remove filler cap or refuel, with the engine running.

Never add gasoline or any other fuel mixes to diesel because of increased fire or explosion risks.

Do not smoke or carry out maintenance on the fuel system near open flame or sources of sparks, such as welding equipment, etc..



9.1 Designs

H5163R

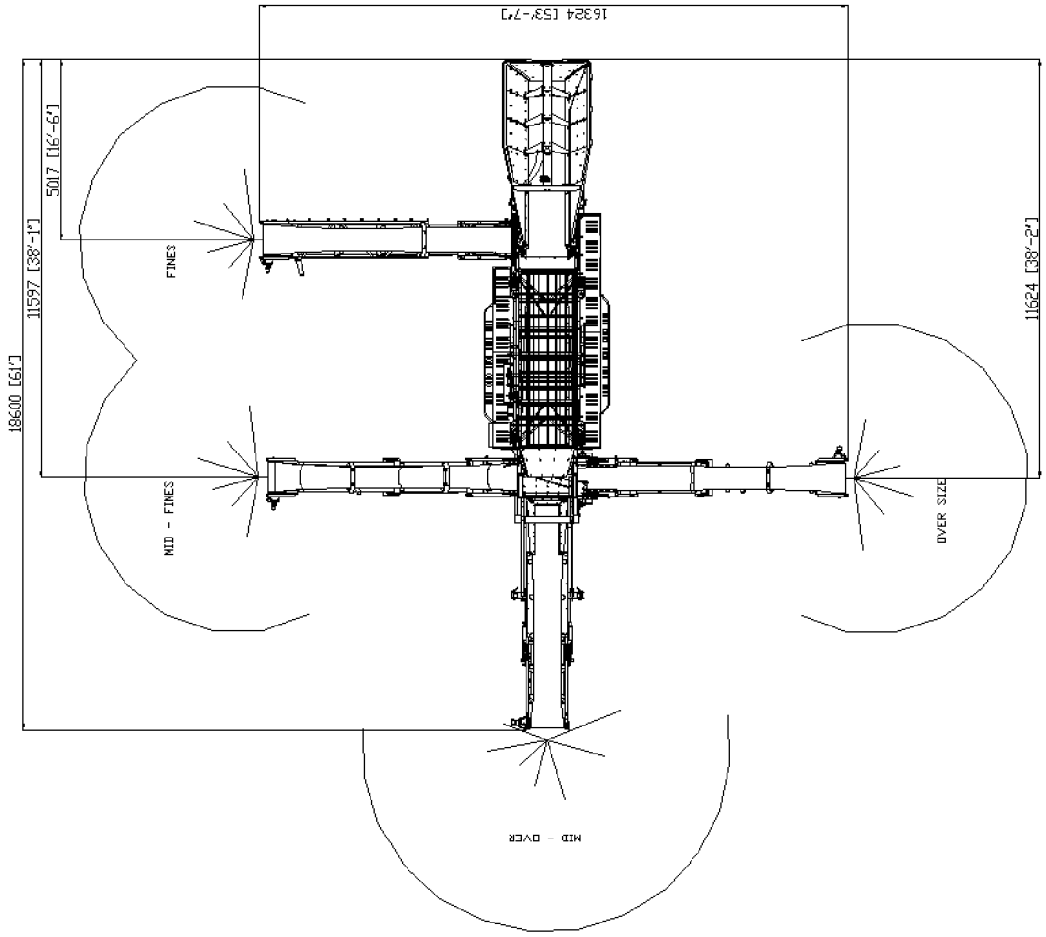
H5163

H5163R + H5163

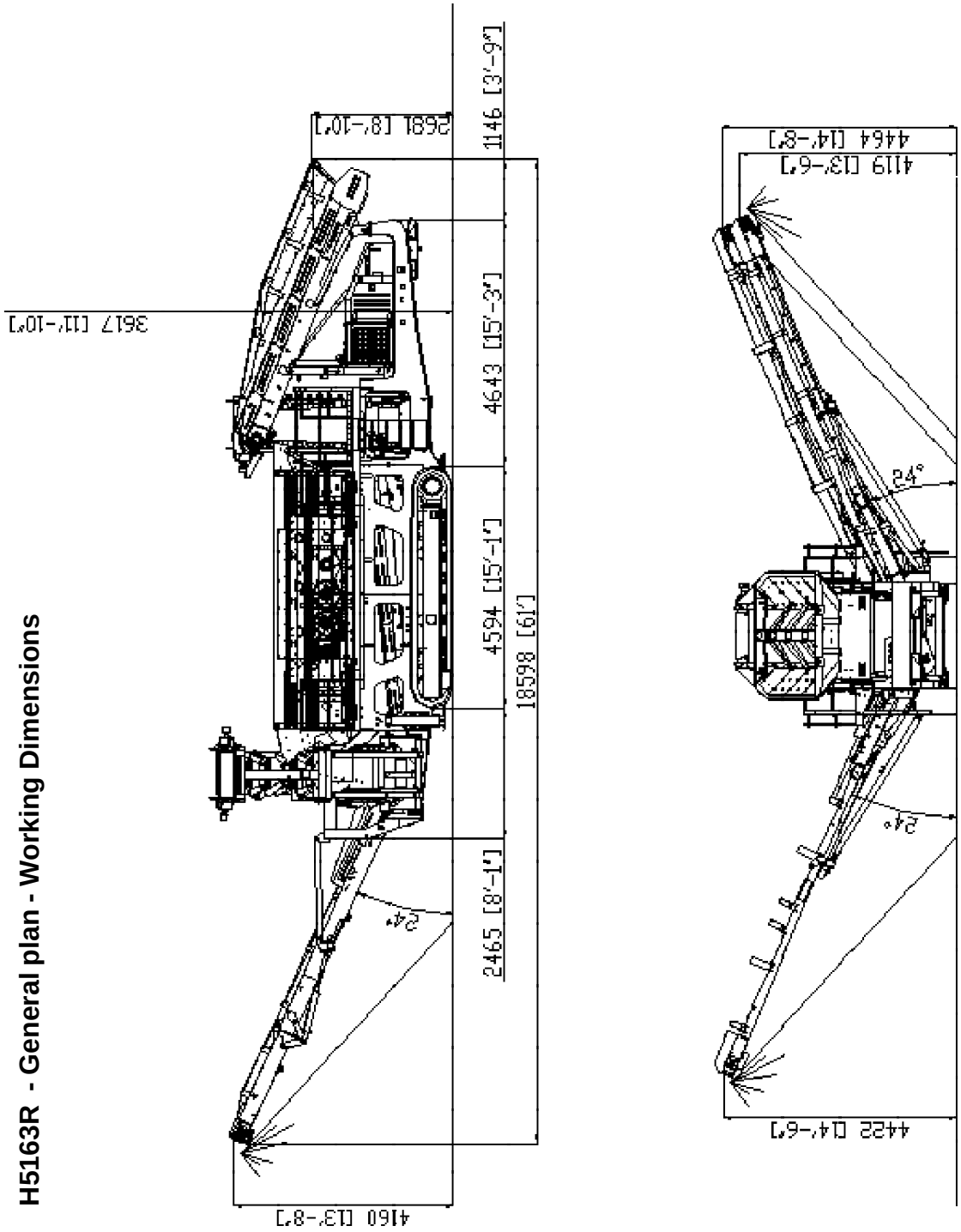
9.2 Enclosed documentation

Engine operation manual
Engine spare parts manual

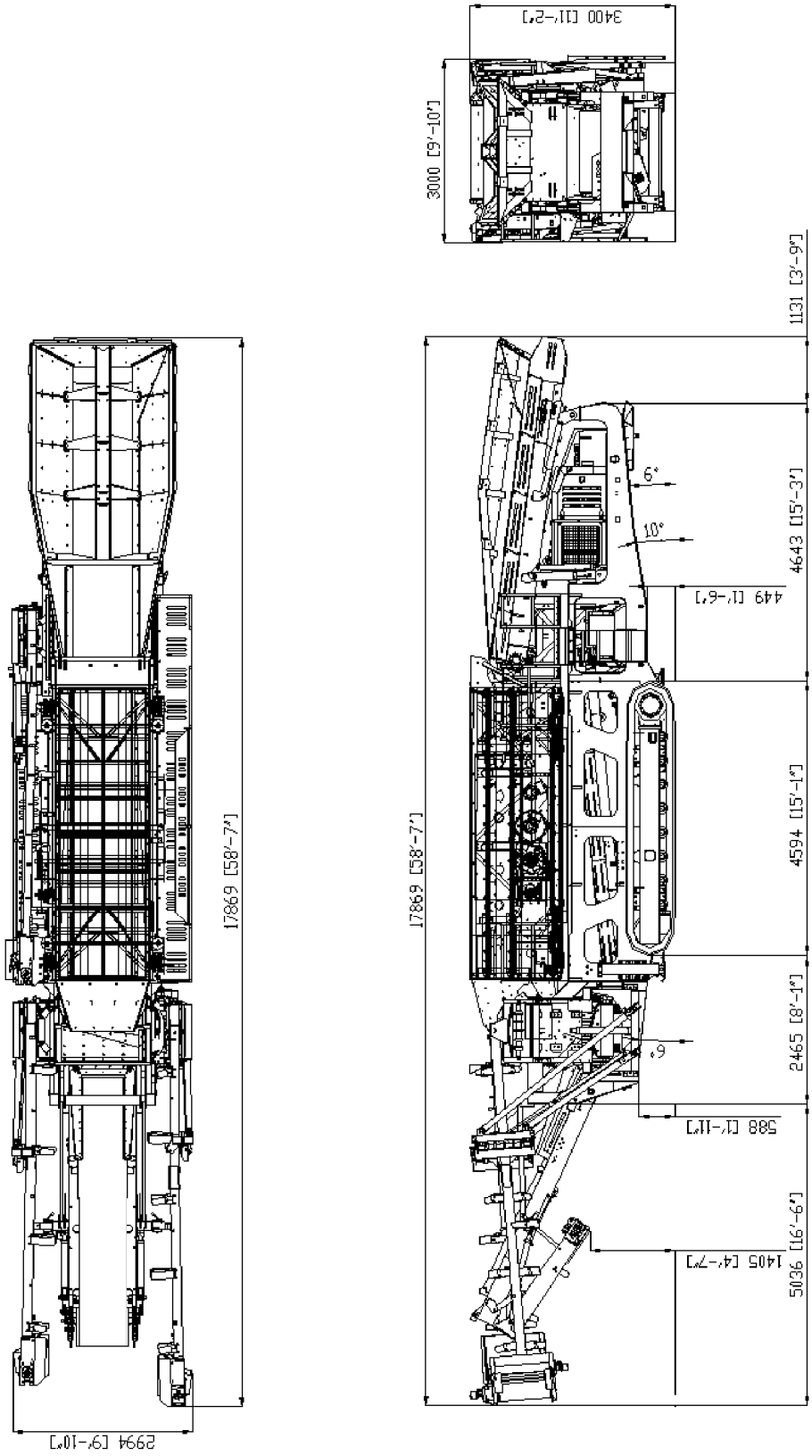
9.1.1 H5163R - General plan



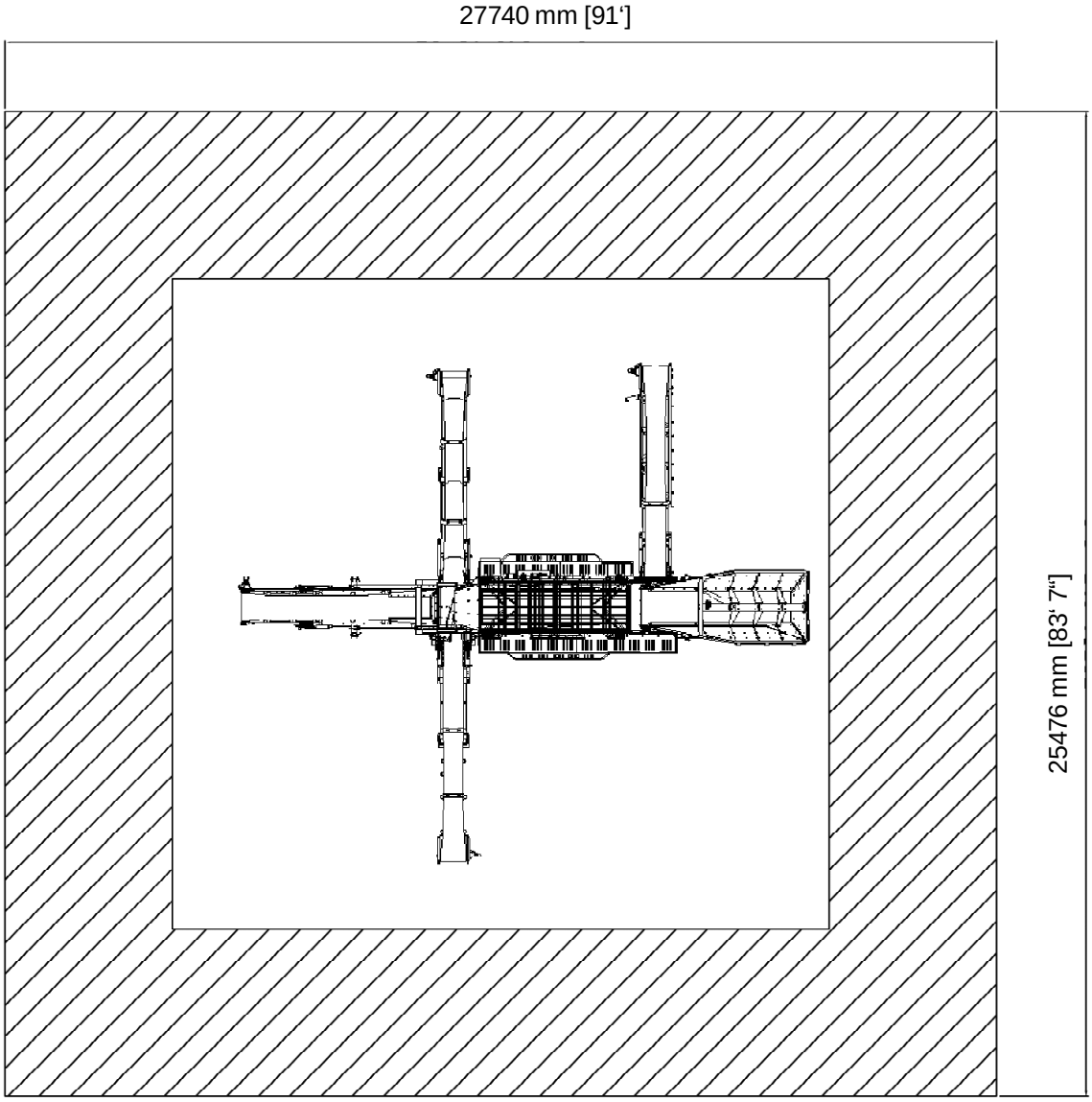
9.1.2 H5163R - General plan - Working Dimensions



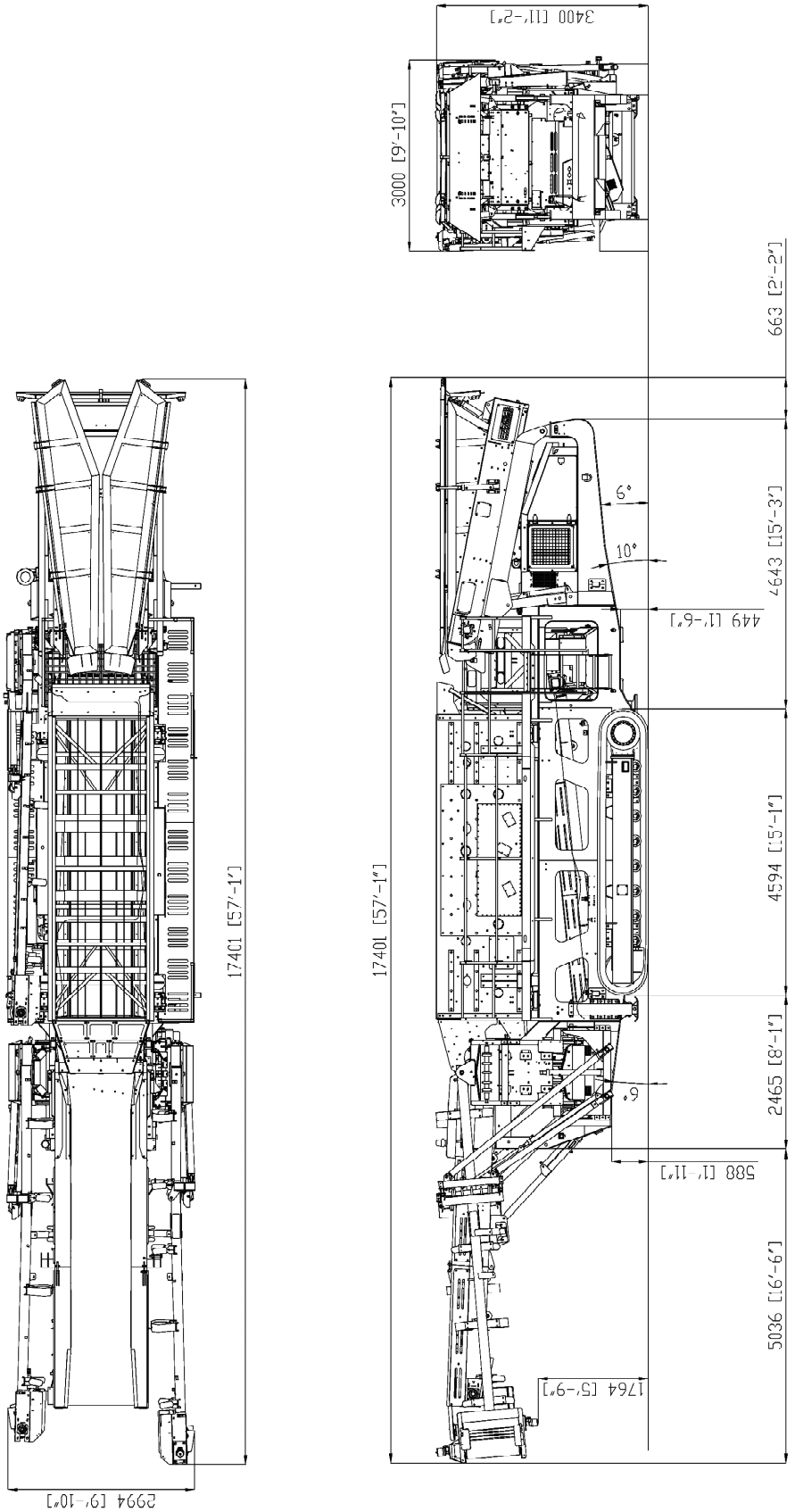
9.1.3 H5163R - Transport Dimensions

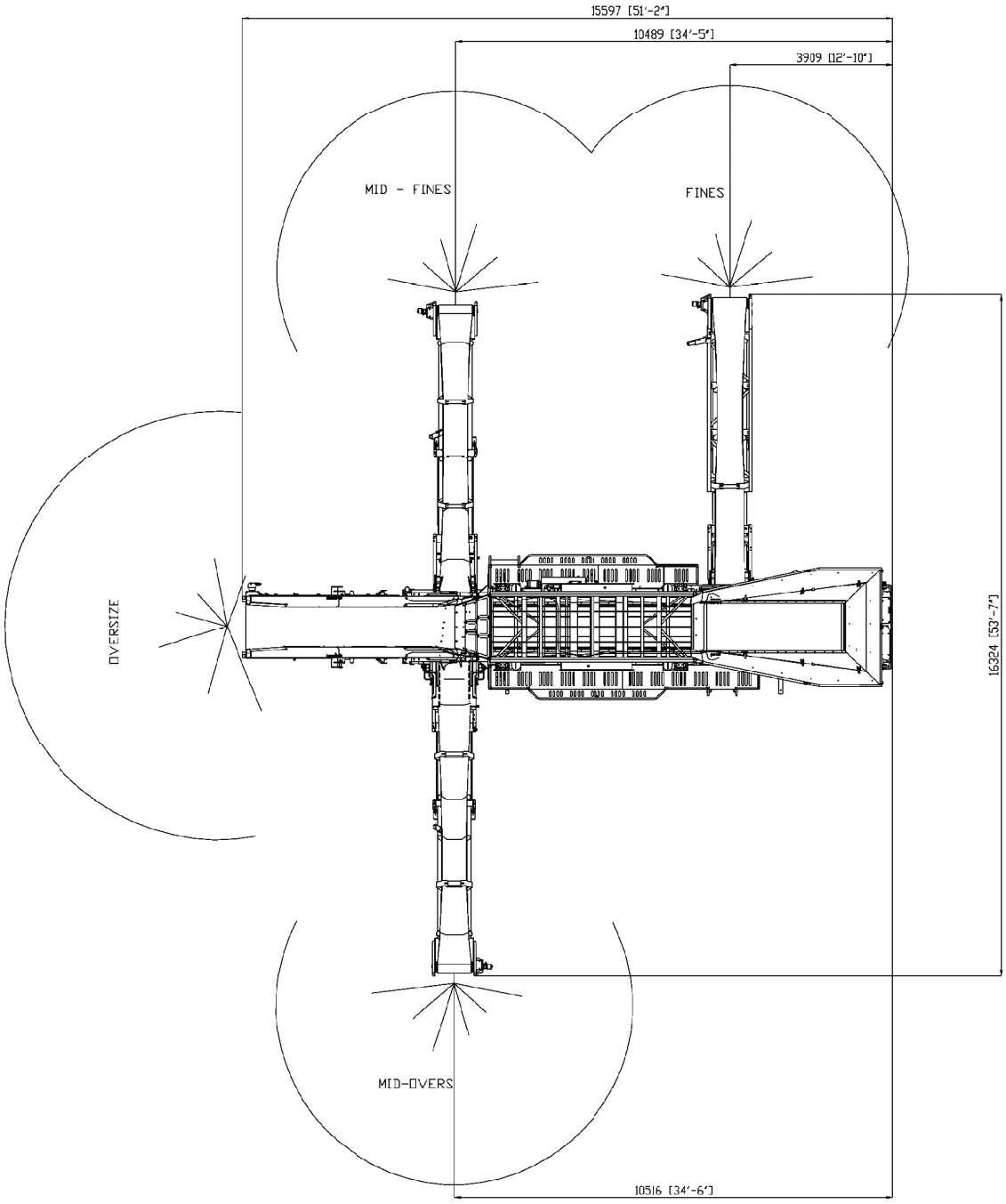


9.1.4 H5163R and H5163 - Working Area Required



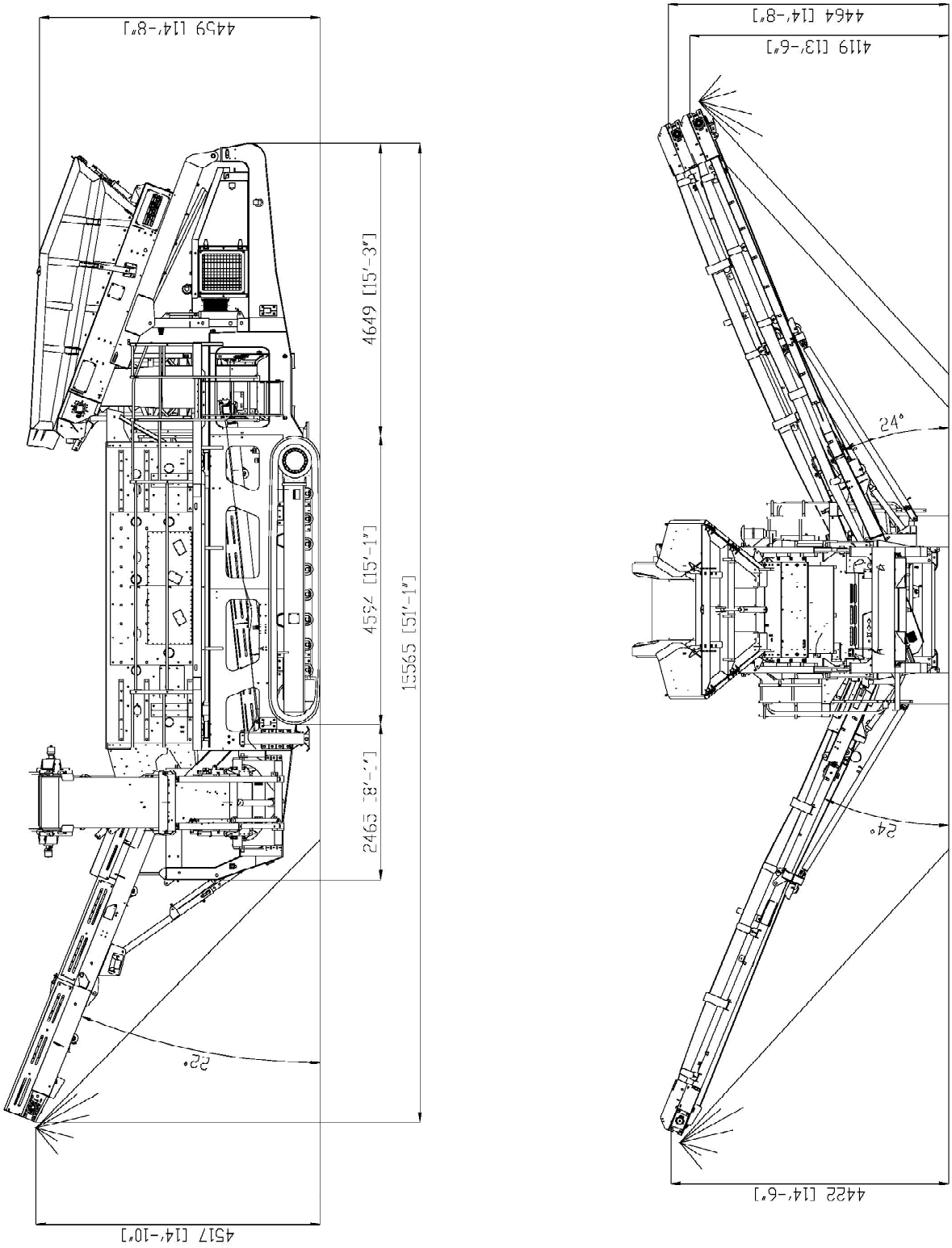
9.1.4 H5163 - Transport Dimensions



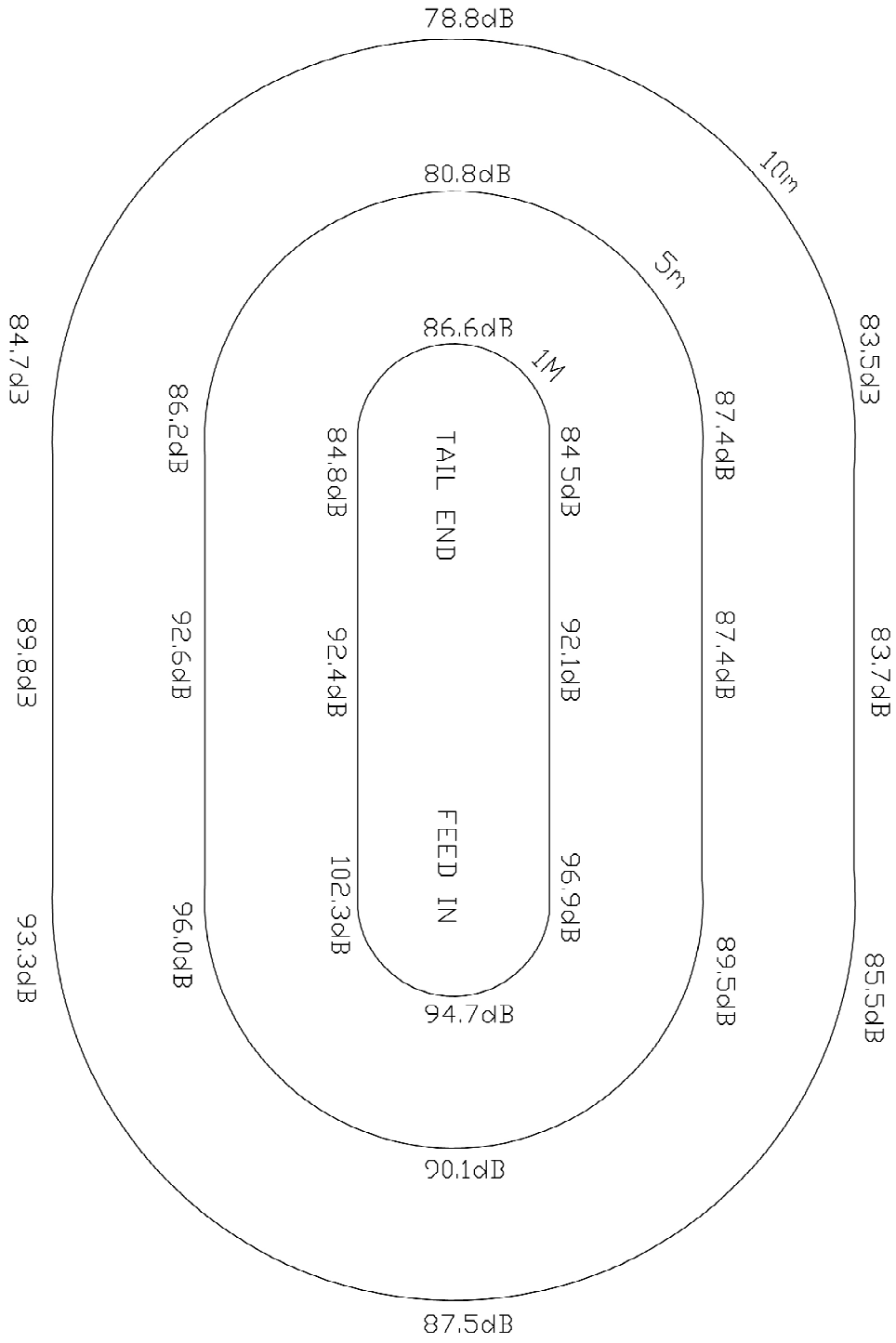


9.1.5 H5163 - Working Dimensions

9.1.6 H5163 - Working Dimensions - End and Side View



9.1.7 H5163R + H5163 - Noise levels M/c running empty




POWERSCREEN
A TEREX
COMPANY

CONTENTS

NOTICE

TROUBLE SHOOTING GUIDE

If any problem arises that is not listed, or if a problem persists after carrying out the recommended checks, contact Powerscreen Aftersales Service Department for further assistance.

10.1 GENERAL TROUBLESHOOTING

FAULT	CAUSE	CORRECT MEASURE
DRIVE DRUM TURNS BUT BELT DOES NOT MOVE	Too much load on belt	Reduce load on belt
	Incorrectly tensioned belt	Tension belt
	Worn belt	Replace belt
BELT COMPLETELY STOPPED	Material jam	Remove material jam
	Taperlock is not tight or broken	Tighten or replace taperlock
BELTS ARE TRACKING OFF	Machine is not level	Ensure machine is on level ground
	Belts are not aligned	Align belts
	Belts are not being fed evenly, material is tending to be fed to one side of conveyor	Ensure conveyor is fed more evenly
MATERIAL COLLECTS UNDER BELT	Skirting rubbers not adjusted	Adjust skirting rubbers
FEEDER CONVEYOR IS NOT MOVING	Feeder kickout circuit has been activated	Allow material in drum to be processed before re-engaging control lever
RUMBLING NOISE FROM BEARING	Bearing lacking lubricant	Follow greasing procedure
	Incorrectly aligned bearing	Align bearing
	Bearing is damaged	Replace bearing
SCREECHING NOISE WHEN CONVEYOR IS RUNNING	Conveyor belt wedged or rubbing against fixed parts	Clear obstruction, adjust and align conveyor belt
	Belt scaper too tightly placed against belt	Re-adjust belt scaper
TIPPING GRID WILL NOT OPERATE IN EITHER MANUAL OR REMOTE CONTROL MODE	Low battery charge level	Charge battery. Top up electrolyte level
	Insufficient flow to hydraulic ram	Check flow from pump and control valve
	Electrical problem	Check fuses, relays and all connections
	Poor hydraulic ram condition	Replace hydraulic ram
	Poor connection between tipping grid reeiver and solenoids	
	Damaged solenoid	Replace solenoid

10.1 GENERAL TROUBLESHOOTING (CONTINUED)

FAULT	CAUSE	CORRECT MEASURE
MACHINE COMPONENTS RUNNING SLOWLY	Obstruction (e.g stone, material build up etc)	Clear obstruction
	Check general condition of machine (e.g oil leaks, excessive heat, hose blockages etc)	Correct problem if possible
	Low engine speed	Correct engine speed
	Low hydraulic oil level.	Top up hydraulic oil level
	Return line filter blockage	Replace return line filter
	Pre-pump filter blockage	Replace suction strainer
	Machine is overloaded	Check mesh size calculations, alter screen angle
	Incorrect control valve relief valve pressure settings	Check and correct relief pressure setting
	Incorrect Pressure relief block pressure settings	Check and correct relief pressure setting
	Pump cavitation, suction line is collapsed	Open gate valve
		Low oil level
	Flow at pump is not as expected	Check flow after pump, after control valve and after motor. These values should be the same
MACHINE WILL NOT JACK TO WORKING POSITION	Machine is not level	Place machine on level ground
	Securing pins not removed	Remove securing pins
	Blockage along hose	Remove blockage, replace hose if necessary
	Incorrect control valve relief pressure	Correct control valve relief pressure
EXCESSIVELY NOISY PUMP	Blockage at pre pump filter	Replace suction strainer
	Misalignment between drive source and pump	Correctly align drive source to pump
	Incorrect hydraulic oil	Drain hydraulic and replace with correct hydraulic oil
	Obstruction at inlet pipe	Remove obstruction

10.1 GENERAL TROUBLESHOOTING (CONTINUED)

FAULT	CAUSE	CORRECT MEASURE
VIBRATION IN SCREENBOX SUBFRAME	Build up of material	Remove build up and ensure build up is regularly removed. In some cases it may be
	Anti - rock stays have not been removed	Remove anti rock stays
	Meshes are not secure	Ensure all meshes, speedharps, punchplate etc are secure
	Machine and Screenbox are not level	Ensure machine and screenbox are level
	Screen shaft is not at correct speed	Correct screen shaft speed
	Screenbox is incorrectly tuned	Tune screenbox by correctly adding or removing weight
	Flywheels are not correctly aligned with screen shaft scribe line	Align flywheels
	Bearing failure (excessive heat, excessive grease, lack of grease or excessive movement)	Replace bearing
	Excessive feed overloading	Coordinate feed loading with tuning of screenbox, acjust screen angle
LOW OR ERRATIC PRESSURE	Contaminants in hydraulic oil	Drain tank and replace hydraulic oil
	Worn or sticking relief valve	Replace relief valve
	Dirt or chip holding valve partially open	Clean around valve. Replace valve
	Control valve relief pressure set too low	Set relief pressure to correct level

10.2 ELECTRICAL TROUBLESHOOTING

FAULT	CAUSE	CORRECT MEAUSE
7 SECOND DELAY WARNING SIREN DOES NOT WORK	Fuse F5 blown	Replace fuse
	Siren have been damaged	Replace siren
CONTROL PANEL LIGHTS UP BUT ENGINE DOES NOT START	Low engine oil level (warning light should be on)	Top up oil level
	Faulty starter motor relay 5	Replace starter motor relay 5
	Faulty ignition switch	Replace ignition switch
	Faulty starter motor	Replace starter motor
CONTROL PANEL DOES NOT LIGHT UP	Low battery voltage	Top up electrolyte level Charge up battery
	Fuse F1 blown	Replace fuse
	Faulty ignition switch terminals	Correct connections / replace
	Damaged battery	Replace battery
BATTERY GOES FLAT WHILE ENGINE IS RUNNING	Low battery voltage	Top up electrolyte level Charge up battery
	Fuse F5 blown	Replace fuse
	Faulty starter motor relay 5	Replace starter motor relay 5
	Faulty starter motor	Replace starter motor
TIPPING GRID REMOTE CONTROL DOES NOT WORK	Remote control is out of range	Move remote control to within 100m of the machine
	Batteries are dead	Replace batteries
	Tipping grid cycle not set	Set program
	Remote control not programmed to receiver box	Program receiver box

10.2 ELECTRICAL TROUBLESHOOTING (CONTINUED)

FAULT	CAUSE	CORRECT MEASURE
TRACKS RADIO CONTROL UNIT DOES NOT WORK	Not correctly charged	Charge battery
	Changeover switch not engaged	Engage changeover switch
TRACKS DO NOT WORK	Control bank levers are not in correct position	Place control bank levers in correct position
	Fuse F3 blown	Replace fuse and check for short circuit between control panel, track junction box and doglead

10.3 ENGINE TROUBLESHOOTING

		SYMPTON										
	Common causes of symptons	Engine non-start or difficult to start	Engine starts, but runs irregularly or fails	Engine becomes excessively hot	Engine output is deficient	Engine does not run on all cylinders	Engine oil pressure is non-existent or very low	Engine oil consumption is excessive	Engine smoke blue	Engine smoke white	Engine smoke black	Measure
1	Not declutched	X										Check
2	Below starting limit temperture	X								X		Check
3	Engine shut off lever still in stop position (shutoff magnet defective)	X			X							Check
4	Oil level too low			X			X					Top up
5	Oil level too high			X	X			X	X			Check
6	Excessive inclination of engine						X	X	X			Check / Adjust
7	Adjust throttle to half actuation travel	X										Check / Adjust
8	Air cleaner clogged / turbocharger			X	X						X	Check / Replace
9	Air cleaner service switch / indicator defective			X	X						X	Check
10	CPD defective (connection line leaks)				X						X	Check
11	Charge air line leaking			X	X						X	Check / Replace
12	Coolant pump defective			X							X	Check / Clean
13	Intercooler soiled				X							Check / Clean
14	Coolant heat exchanger soiled			X								Check / Clean
15	Cooling fan defective, torn or loose V belt Fuel pump in belt drive)	X	X	X	X	X						Check / Replace
16	Cooling air temperture rise / heating short circuits			X	X							Check
17	Battery defective or discharged	X										Check

CPD = Charge Pressure Dependant

NOTICE

From Deutz 2012 engine manual

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10.3 ENGINE TROUBLESHOOTING (CONTINUED)

		SYMPTON										
	Most common cause of sympton	Engine non-start or difficult to start	Engine starts, but runs irregularly or fails	Engine becomes excessively hot	Engine output is deficient	Engine does not run on all cylinders	Engine oil pressure is non-existent or very low	Engine oil consumption is excessive	Engine smoke blue	Engine smoke white	Engine smoke black	Measure
18	Cable connections, starter, electrical, circuit loose or oxidised	X										Check
19	Starter defective or pinion does not engage	X										Check
20	Incorrect valve clearance	X	X		X					X	X	Adjust
21	Injection line leaks	X	X		X	X						Check
22	Ventilation line blocked (coolant heat			X								Check / Clean
23	Sheathed glow plugs defective	X								X		Check
24	injection valve defective	X	X	X	X	X				X	X	Check / Replace
25	Air in the fuel system	X	X		X	X						Check / Replace
26	Fuel filter / fuel pre-cleaner soiled	X	X		X	X						Check / Clean / Replace
27	Oil filter defective			X								Replace
28	Incorrect engine lube oil SAE class or quality	X					X	X				Replace
29	Fuel quality not as per operation manual	X	X		X					X		Check / Replace
30	Coolant deficiency			X								Check / Top up

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10.4 HYDRAULIC TROUBLESHOOTING

FAULT	CAUSE	CORRECT MEASURE
NO RESPONSE FROM ANY HYDRAULIC SYSTEM	Low oil level	Top up hydraulic oil level
	Return line element is clogged (Check blockage indicator)	Replace return line element
	Damaged suction line	Replace suction line pipe
	Pressure relief valve stuck in open position	Replace valve
MACHINE OPERATING SLOWLY. NO EXTERNAL OIL LEAKS	Low oil level	Top up hydraulic oil level
	Incorrect hydraulic oil	Drain tank and replace hydraulic oil
	Engine performance	Consult engine manual
	Loose or damaged taperlocks	Tighten / replace taperlock
	Worn or damaged drive motor	Replace motor
	Worn or damaged pump	Replace pump
EXCESSIVE NOISE FROM HYDRAULIC PUMP	Low oil level causing cavitation	Top up oil level
	Incorrect hydraulic oil (fluid viscosity too high)	Drain tank and replace hydraulic oil
	Damage to suction pipe	Replace pipe
	Misaligned drive source (engine or motor) to pump	Align pump correctly
	Damaged pump	Replace pump

10.5 TRACKS TROUBLESHOOTING

(i) One Track not operating or operating slower than the other

- Check that the same size of Motors have been fitted to both Tracks.
- Check if the brake is releasing.

Fit a pressure clock to the Brake Hose. A pressure of at least 285 PSI / 20 bar is required to release the brakes.

If the correct pressure is not going to the Brake hose it is likely to be a problem with the Motion Control Block possibly contamination. If a Load Control Valve should jam due to oil-entrained debris then the likelihood is that it will not open and will not allow the motor to turn in one direction.
This will cause the Host Machine to 'crab' in one direction. Swapping the valves over from one Track to the other will usually transfer the problem to the opposite direction.

Similarly, if the Brake Pressure Regulator Valve is jammed due to debris the motor will stop turning on one side. Swap the Pressure Regulator from the opposite block to see if the problem is in the Brake Valve.

Try removing the Valves and cleaning them thoroughly taking care not to damage the external cavity seals.
Also check the ports in the Block for dirt etc. If this does not work replace the valves with new ones. Always cross-reference the part numbers on the new valves with the old valve, before fitting. It is critical that the correct Valves are fitted. Valves should never be dismantled as no internal seals or parts are available.

If the valves continue to jam then the oil in the hydraulic system is not being filtered to the required level of cleanliness.

- If the correct pressure is going to the Brake Hose then the Motor, Brake or Brake Piston Seals may be damaged.

- To check for a Motor fault swap over the Motors on the two Tracks. If the fault is in the Motor, replace with a new Motor.
- To check for a faulty Brake remove the Motor and look into the Gearbox for heat discolouration and/or fragments of Brake disc. If the fault is in the Brakes the complete Gearbox will have to be replaced.
-To check for faulty Brake Piston seals remove the Motor. If there is Hydraulic oil in the Gearbox entrance then the seals are damaged. While it may be possible to replace these seals on-site we strongly recommended that a replacement Gearbox is fitted and an overhaul of the damaged Gearbox be carried out off-site.

10.5 TRACKS TROUBLESHOOTING (CONTINUED)

(ii). Excessive oil leaking around Drive Assembly

- Seals damaged between Motion Control Block and Motor.

Remove Motion Control Block and replace seals.
Note: Seal damage may be caused by excessive oil temperatures. Check oil operating temperature and environmental conditions.

- Seal damaged between Motor and Gearbox.

Remove Motor and replace seal.
Note: Seal damage may be caused by excessive oil temperatures. Check oil operating temperature and environmental conditions.

(iii) Track will not stay tensioned

- Grease escaping.
Check that the Track Adjuster Grease Valve is tight, has a properly fitted seal and that there is no grease leaking past it.
Check around the Tensioning Cylinder for escaping grease. This will indicate that the seals are damaged in the Tensioning Cylinder. Replace with a new Cylinder immediately.

(iv) Track Group running off Sprocket and/or Idler

- Track Group too loose. Check Track tension
- Excessive misalignment. Check alignment of Sprocket, Idler and Track Rollers.
- Excessive component wear. Check wear limits,
- Twisted Track Frame. Check Track Frame.

(v) Excessive Component Wear Rate

- Included in this section

(vi) Track Roller leaking oil

- Damaged or worn seals. Replace with a new Track Roller.


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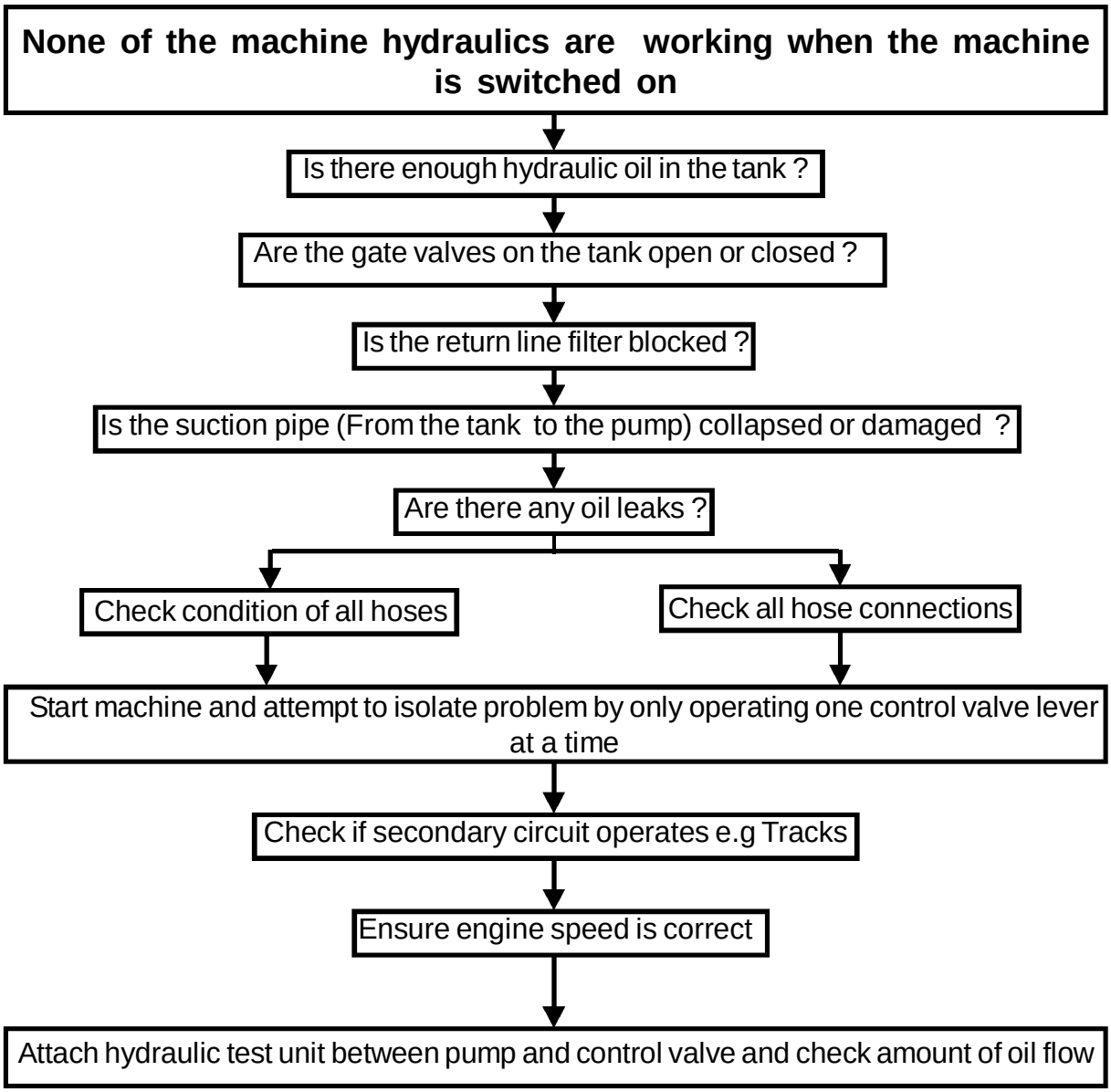
CONTENTS

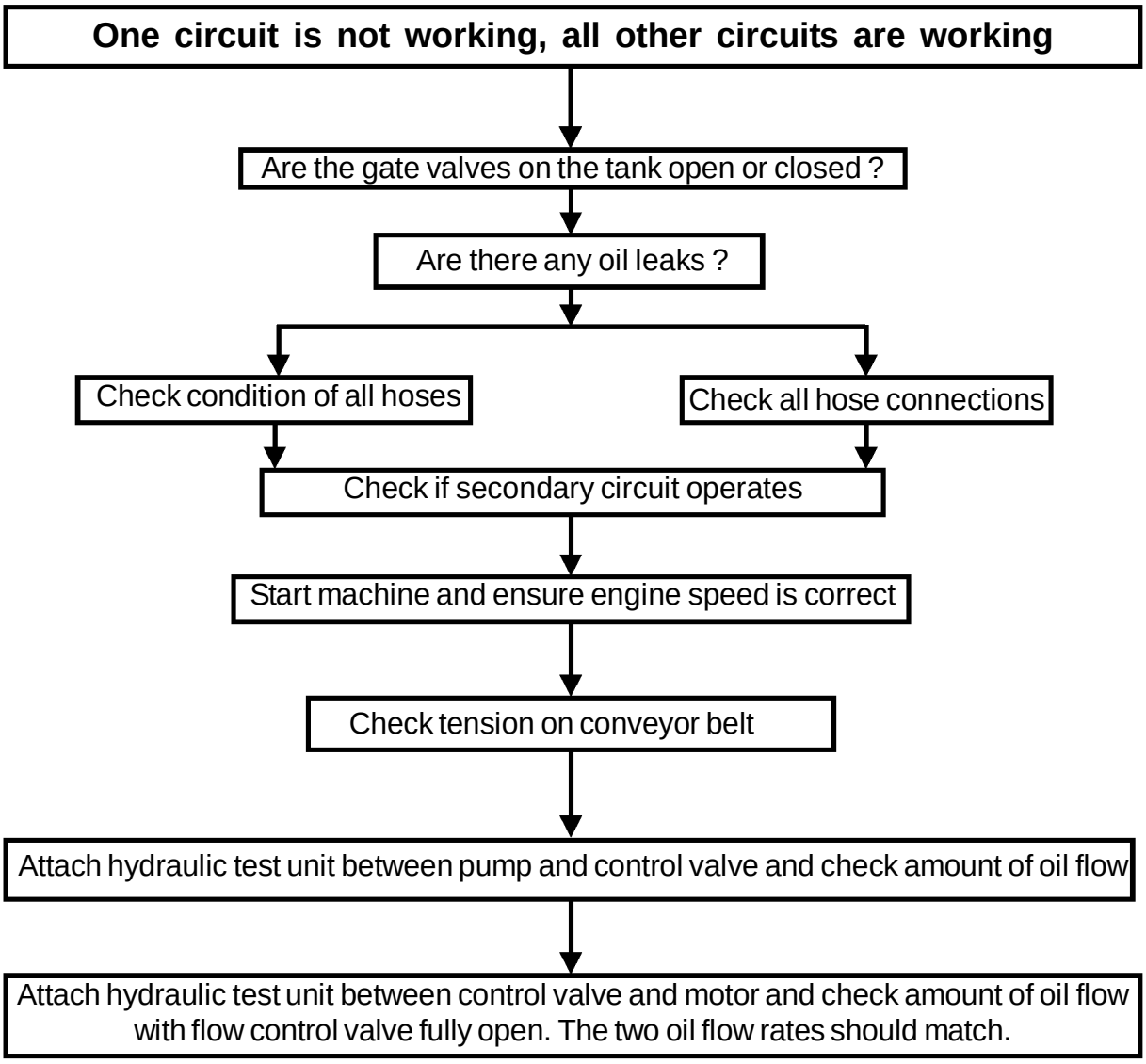
11.1 Hydraulic Fault Finding

11.1.1 None of the machine hydraulics are working when the machine is switch on



11.1 Hydraulic Fault Finding

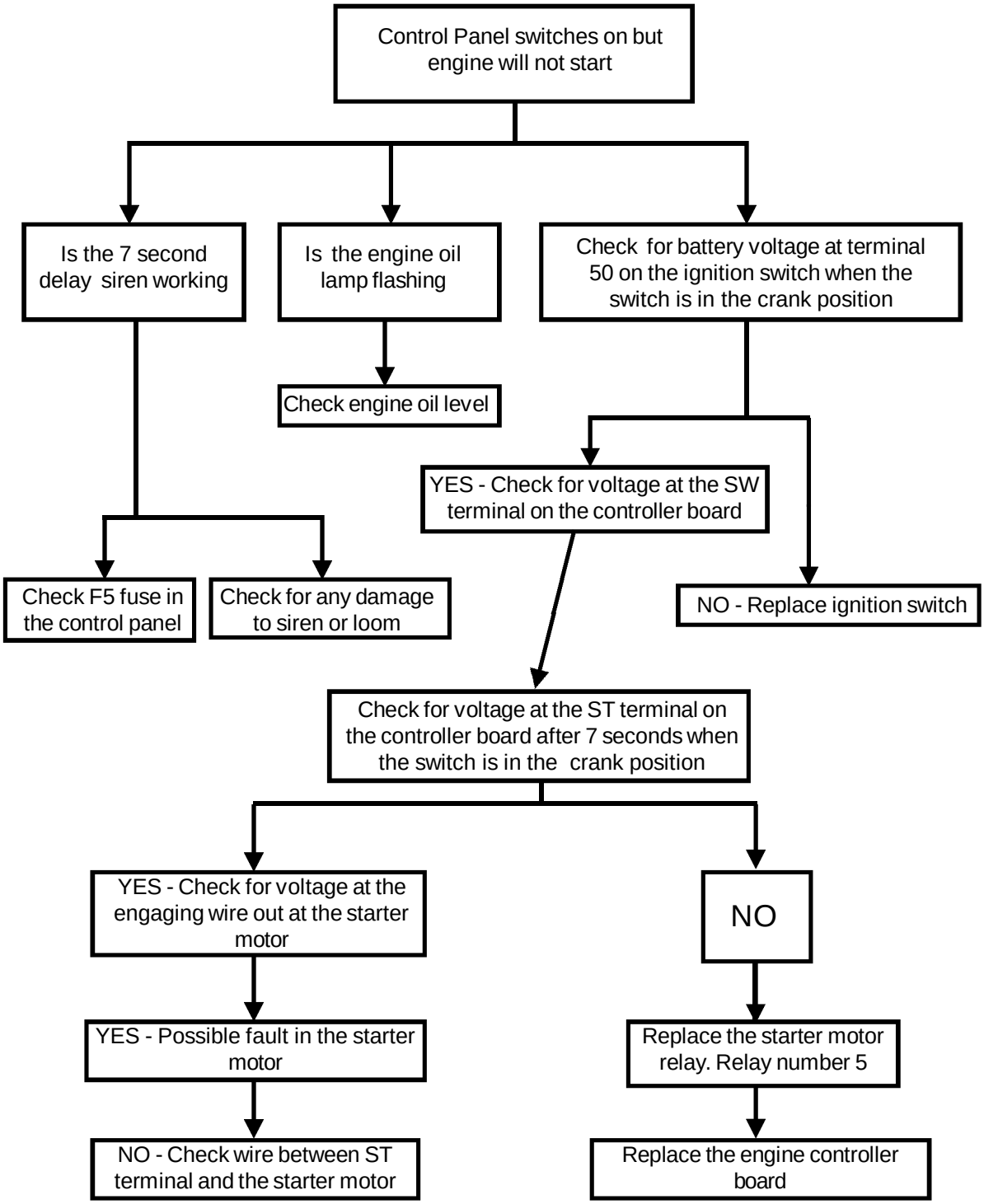
11.1.2 One circuit is not working, all other circuits are working



Always ensure hydraulic test unit is fully open when connectingto circuit
Never attach a hydraulic test unit between the pump and a control valve and restrict the flow using the adjustable screw
Never attach any measurement device that restricts or blocks flow from a pump
THIS WILL CAUSE SERIOUS DAMAGE TO THE PUMP

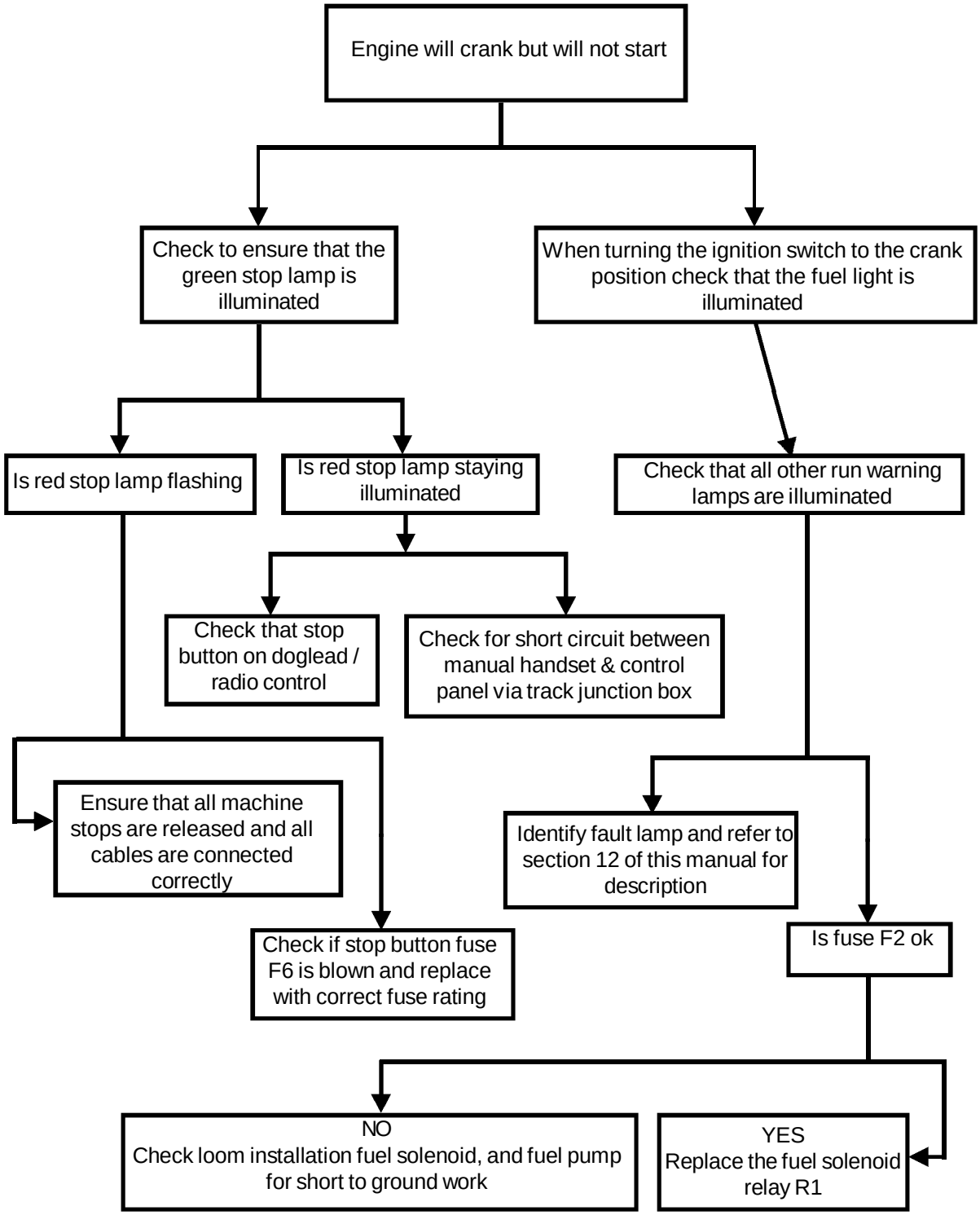
11.2 Electrical fault finding

11.2.1 Control panel switches on but engine will not crank

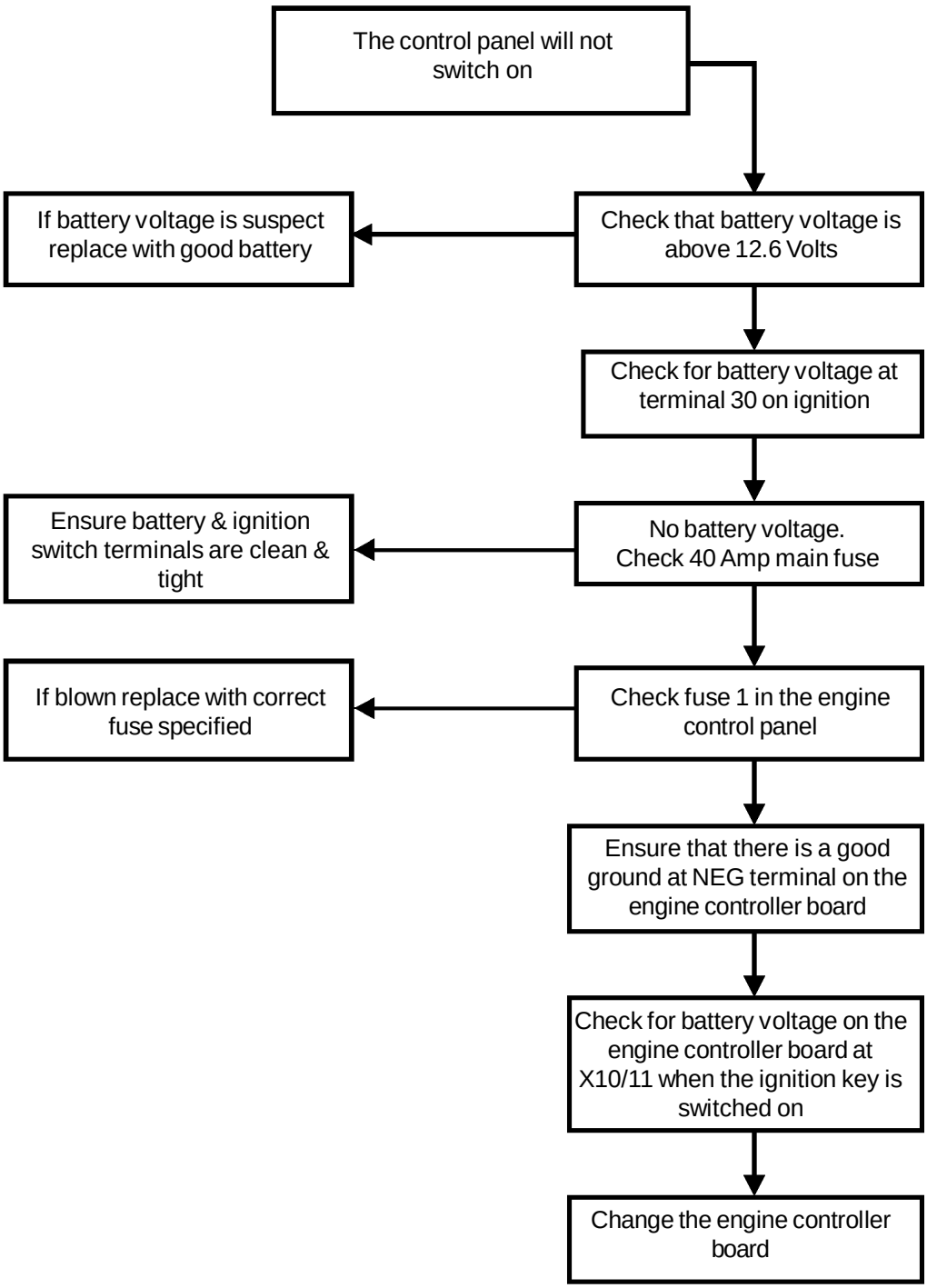


11.2 Electrical fault finding

11.2.2 Engine will crank but NOT start

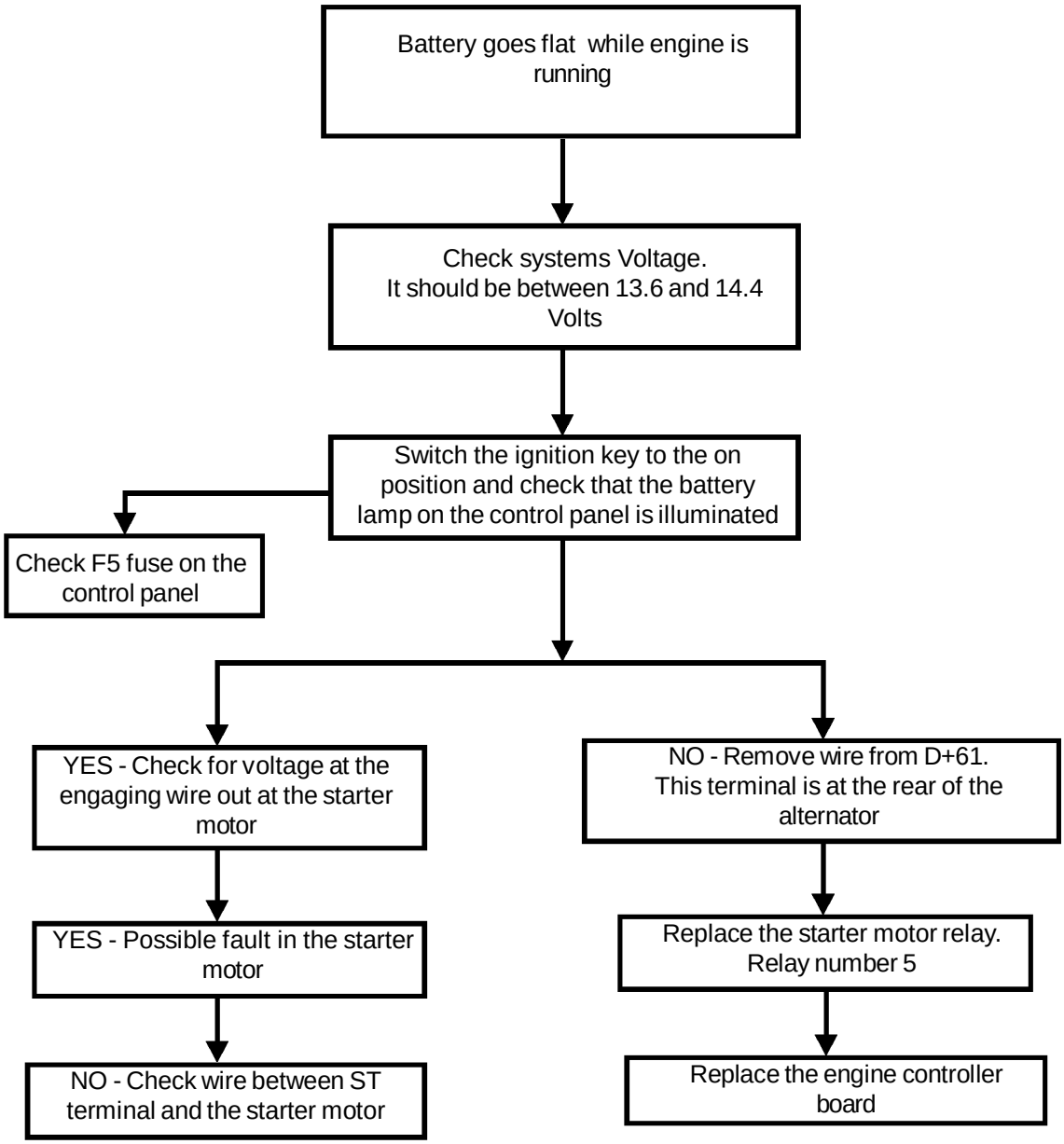


11.2 Electrical fault finding
11.2.3 Control panl will NOT switch ON



11.2 Electrical fault finding

11.2.4 Battery goes flat while engine is running

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Contents

12.1 - Plant Tracks

PROCEDURE

Keeping the track correctly adjusted will increase the service life of the track and drive components.
Frequently check for loose bolts, oil leaks, master pins are correctly located and tight, general wear and damage, correct track tension, etc. to ensure safe working and long life

HAZARDS	
1520 / 1513 ISO **1520 / 1513 ANSI**	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1508 ISO **1508 ANSI**	**FALL HAZARD** Refer this Section, safety information for relevant warning.
1532 ISO **1532 ANSI**	**SWITCH OFF AND LOCKOUT** Refer this Section, safety information for relevant warning.

!NOTICE!

To maximise the life of the track, keep it movable and avoid damage, the plant should be moved at least every week, by a distance exceeding four times the track length. It should also be parked on level ground overnight and during periods to of non-usage. This is particularly important when working in adverse conditions.

It is essential that the tracks are correctly tensioned at all times. Check track tension regularly.

Moving the plant with incorrectly tensioned tracks can cause severe damage to the undercarriage components and may invalidate the warranty.

12.2 Measuring Track Tension

1. Observe all Safety Warnings.

2. Position the plant on solid and level ground and drive 2 metres (2 yards) minimum in a forward direction, track idler roller leading.

3. Close down the plant and implement the Lockout Procedure.

4. One track at a time, measure the sag on the top part of the track on the longest section of unsupported track by placing a 'straight edge' long enough to reach from the drive sprocket to the nearest skid plate.

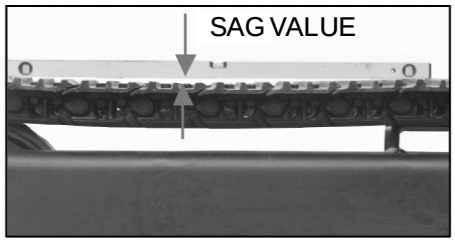
5. Measure the maximum amount of track sag from the high point of the track to the bottom of the 'straight edge'. Correctly adjusted, the sag should be within the limits set for each supplier as shown in the table below.

6. Depending upon the need to either slacken or tension the track, proceed as follows.

WARNING

Prior to attempting any manoeuvring of the plant the tracks must be free of obstructions, including crushed material and fines. Do not push or tow the plant. Failure to observe this warning could result in injury to persons and damage to the plant which may invalidate warranty.

It is important that the track is not tensioned too tightly as this places excessive loads on the gearbox grease cylinder and idler bearings. It will also lead to accelerated wear and premature failure.



IDENTIFICATION	SAG VALUE
TRACKLINE	5MM - 15MM
STRICKLINE	5MM - 15MM
TEREX	20MM - 40MM

12.3 Adjusting Track Tension

1. Observe all Safety Warnings.

2. Close down the plant and implement the Lockout Procedure.

3. Locate the access aperture on the side of the track frame and remove the cover, where fitted, to reveal the relief valve inside.

To Release Track Tension [After measurement]:-

4. Loosen the relief valve by turning counter clockwise using gradual increments until the grease begins to be expelled. Care must be taken not to loosen the relief valve too quickly because the grease inside is under high pressure.

5. When the correct track tension has been measured, turn the relief valve clockwise to tighten and then clean away all trace of expelled grease.

6. If the track fails to slacken after the grease fitting has been loosened, do not attempt to remove the tracks or disassemble the track tensioner, or remove the grease fitting. It is possible that running the tracks with the grease fitting loosened may help to expel the grease

⚠ HAZARDS	
1520 / 1513 ISO 1520 / 1513 ANSI	**WEAR PERSONAL PROTECTIVE EQUIPMENT** Refer this Section, safety information for relevant warning.
1508 ISO 1508 ANSI	**FALL HAZARD** Refer this Section, safety information for relevant warning.
1532 ISO 1532 ANSI	**SWITCH OFF AND LOCKOUT** Refer this Section, safety information for relevant warning.

WARNING

Grease escaping under high pressure. Grease can penetrate the skin. Ensure correct personal protective equipment is worn.

DANGER

Grease coming out of the relief valve under pressure can penetrate the body causing injury or death; DO NOT watch the relief valve to see if grease is escaping but instead watch the track adjustment cylinder to verify that the track is being loosened.

12.3 Adjusting Track Tension - CONTINUED

To Increase Track Tension [After measurement]:-

7. Connect the grease gun to the grease fitting and add grease until the track tension is within the specified dimension, see 'Measuring Track Tension' and refer to lubricant and fluid specifications.

Re-check Tension

8. Operate the plant in track mode and drive the plant 50 metres (50 yards) forwards and 50 metres (50 yards) backwards, check track tension and repeat the above steps if it is within the specified dimension, see 'Measuring Track Tension'.

9. If room for manoeuvring the plant is restricted, drive the plant forwards and backwards several times over a shorter distance.

DO NOT SET TRACK TENSION TOOTIGHT.

12.4 GEARBOX OIL LEVEL

CHECKING AND FILLING GEARBOX OIL

1 Ensure machine is switched off, locked out and tagged out. Remove ignition key, carry it with you.

2 Move the machine to a level surface and bring the oil drain holes to the position shown in fig 28.4.

3 Thoroughly clean around both plugs removing all potential contaminants.

4 Remove both plugs.

5 Fill the oil through the upper hole until it runs out through the lower hole.

6 Wait a few moments until any trapped air has escaped and then re-check the level. Add more oil if necessary.

NOTICE

Cleanliness is essential when checking, filling or replacing oil in the gearbox. Gearbox operating life will be dramatically shortened if the oil becomes contaminated. Only use new clean oil in clean containers and fillers.

NOTICE

The Gearbox should hold approximately 5 litres of oil, which should be filtered through a 10 micron filter before entering the gearbox.

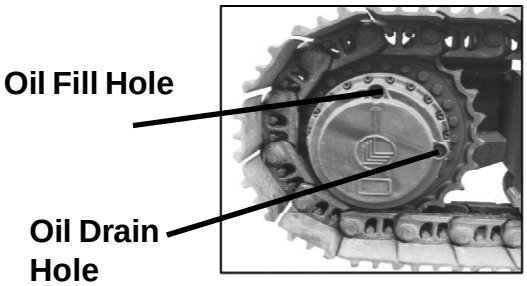


Fig 28.4

12.5 DRAINING GEARBOX OIL

1 Ensure machine is switched off, locked out and tagged out. Remove ignition key, carry it with you

2 Move the machine to a level surface and bring the oil fill and oil drain holes to the position shown in fig 28.5

3 Thoroughly clean around both plugs removing all potential contaminants.

4 Remove both plugs and allow the oil to drain. The oil will drain quickly if it is hot, however care should be taken to avoid burns to the operator.

5 Move the machine to bring the plugs to the fill position shown in fig 28.5

Do not move the machine any further until the gearbox oil has been replaced

6 Re fill the oil

Dispose of oil safely and in a environmentally friendly manner

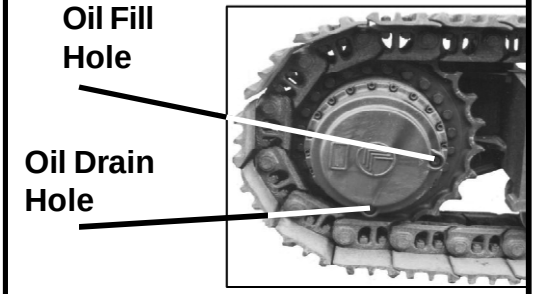
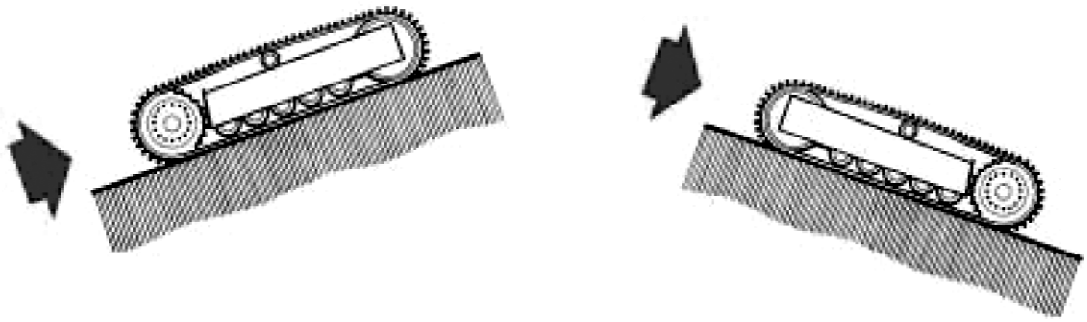


Figure 28.5

12.6 TRACK OPERATING PRECAUTIONS

When traveling up a gradient, the tracks should be driven forward (i.e idlers first, drive sprocket to the rear). When traveling down a gradient, tracks should be driven sprocket



ALWAYS:-

Park the machine on flat, level ground. If necessary to park the machine on a gradient, the tracks should be solidly blocked.

Ensure the terrain the machine is working on is firm enough to adequately support the machine.

Ensure the machine is tracked at least 10m in either direction on a daily basis, to minimize risk of track chain seizure.

Ensure the track systems are free from debris before moving the machine.

Ensure the tracks are not frozen to the ground before moving the machine.

NEVER:-

Attempt to track the machine if there is any build up of material around the tracks and drive sprockets.

Attempt to track the machine if the tracks are frozen to the ground.

Push or tow the machine when unable to free itself.

Failure to observe the above precautions could result in danger to persons and damage to the track systems and may also invalidate the warranty.

12.7 Cleaning the tracks

1. Observe all safety warnings.

2. On a daily basis the tracks should be hosed down to dislodge any build up of material on the tracks.

HAZARDS	
	LOCK-OUT MACHINE. Refer this Section, Safety information, for relevant Lock-Out procedure.
	WEAR PERSONAL PROTECTIVE EQUIPMENT. Refer this Section, safety information for relevant warning.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