A TEREX BRAND

Operator's Manual

	Serial number range
GTH 4016 SR	From s/n: 17857 to s/n: 20126
GTH 4018 SR	From s/n: 17888 to s/n: 20172

With Maintenance Information

First Edition
First Printing
Part No. 57.0009.0499

Important

Read, understand and obey these safety rules and operating instructions before operating the machine. Only trained and qualified personnel shall be authorized to operate the machine. This manual shall be kept with the machine at all times.

For any further information, please call Terexlift.

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Produced by:
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Umbertide (PG) Italy

Introduction

Symbols



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

DANGER

Red: indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

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

CAUTION

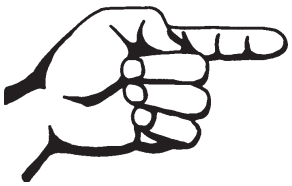
Yellow: indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE

Blue: indicates a property damage message.

PROTECT THE ENVIRONMENT

Green: used to draw the attention to important information on environment protection.



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Machine Identification

Check that the operator handbook refers to the delivered machine.

MODEL AND TYPE

Handler with telescopic boom. Models:

GTH-4016 SR - GTH-4018 SR

MANUFACTURER

TEREXLIFT srl

Zona Industriale - I-06019 UMBERTIDE (PG) - ITALY

Enrolled in the register of companies at the Court of Perugia under no. 4823

C.C.I.A.A. 102886

Fiscal Code/V.A.T. no. 00249210543

APPLICABLE STANDARDS

For the operator's safety, the following standards were obeyed during the risk assessment of the handler fitted with telescopic boom norme:

Directive	*Title*
98/37/CE	Machinery Directive
89/336/CEE	Electromagnetic compatibility
2000/14/CE	Environment Acoustic Emissions

Standard	*Title*
ISO 2330:1995	Fork-lift trucks - Fork arms - Technical characteristics and testing. ISO 3287: 1999 Powered industrial trucks - Symbols for operator controls.
ISO 3449:1992	Earth-moving machinery - Falling-object protective structures - Laboratory tests and performance requirements.
EN 13510: 2002	Earth-moving machinery - Roll-over protective structures - Laboratory tests and performance requirements.
EN 13059:2002	Safety of Industrial trucks- Test methods for measuring vibration

MACHINE IDENTIFICATION PLATES

The following data plates are applied on the machine:

Machine data plate

The identification plate contains the main identification data of the machine like model, serial number and year of manufacture.

On machines destined for the Italian market, the data plate is installed in the driving cab, on the right, and is well-visible when the door is opened.
On the machines destined for foreign markets, the data plate is applied on the front right side of the chassis.

Road traffic data plate

The road traffic data plate is installed on the front right side of the chassis (only on machines destined for the Italian market).
This plate shows the road traffic related data and the weights of the specific machine model.

ROPS-FOPS cab type-approval plate

The ROPS - FOPS type-approval plate is located inside the driving cab above the rear glass.

Fork data plate

Placed on the left side of the fork frame.

This plate shows the identification data of fork such as model, serial number, year of manufacture, weight, nominal payload, centre of the load and model of the machine on which the forks are installed.

Machine Identification

CE MARKING

This machine fulfils the safety requirements of the Machinery Directive.The conformity has been certified and the placing of the **CE** marking on the machine demonstrates compliance with the regulatory requirements.
The **CE** marking is placed directly on the identification plate of the machine.

CHASSIS SERIAL NUMBER

The chassis serial number is punched on the front left part of the chassis side member.

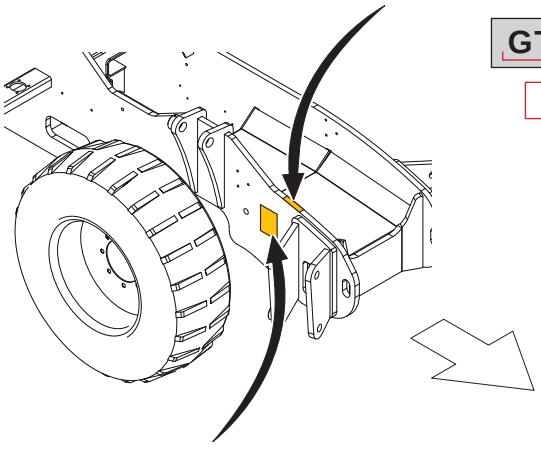
IDENTIFICATION PLATES OF THE MAIN PARTS

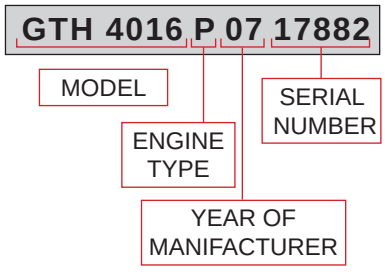
The plates of the main components, not directly manufactured by **TEREXLIFT srl** (for instance, engines, pumps, etc.), are located where originally applied by the manufacturers.

HOW TO READ YOUR SERIAL NUMBER

Chassis serial number

(The chassis serial number is punched on the front right part of the chassis side member)





Machine data plate

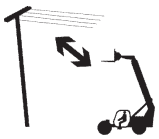
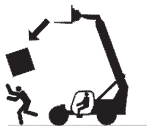
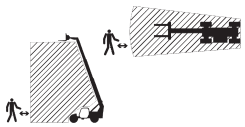
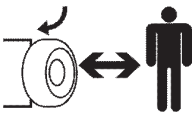
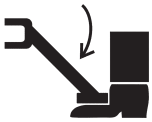
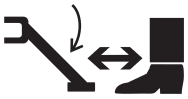
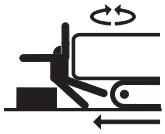
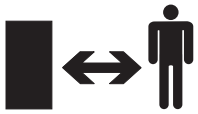
(On machines destined for the Italian market, the machine data plate is installed in the driving cab, on the right, and is well-visible when the door is opened. On the machines destined for foreign markets, the data plate is applied on the front right side of the chassis)

Symbols Used On The Machine

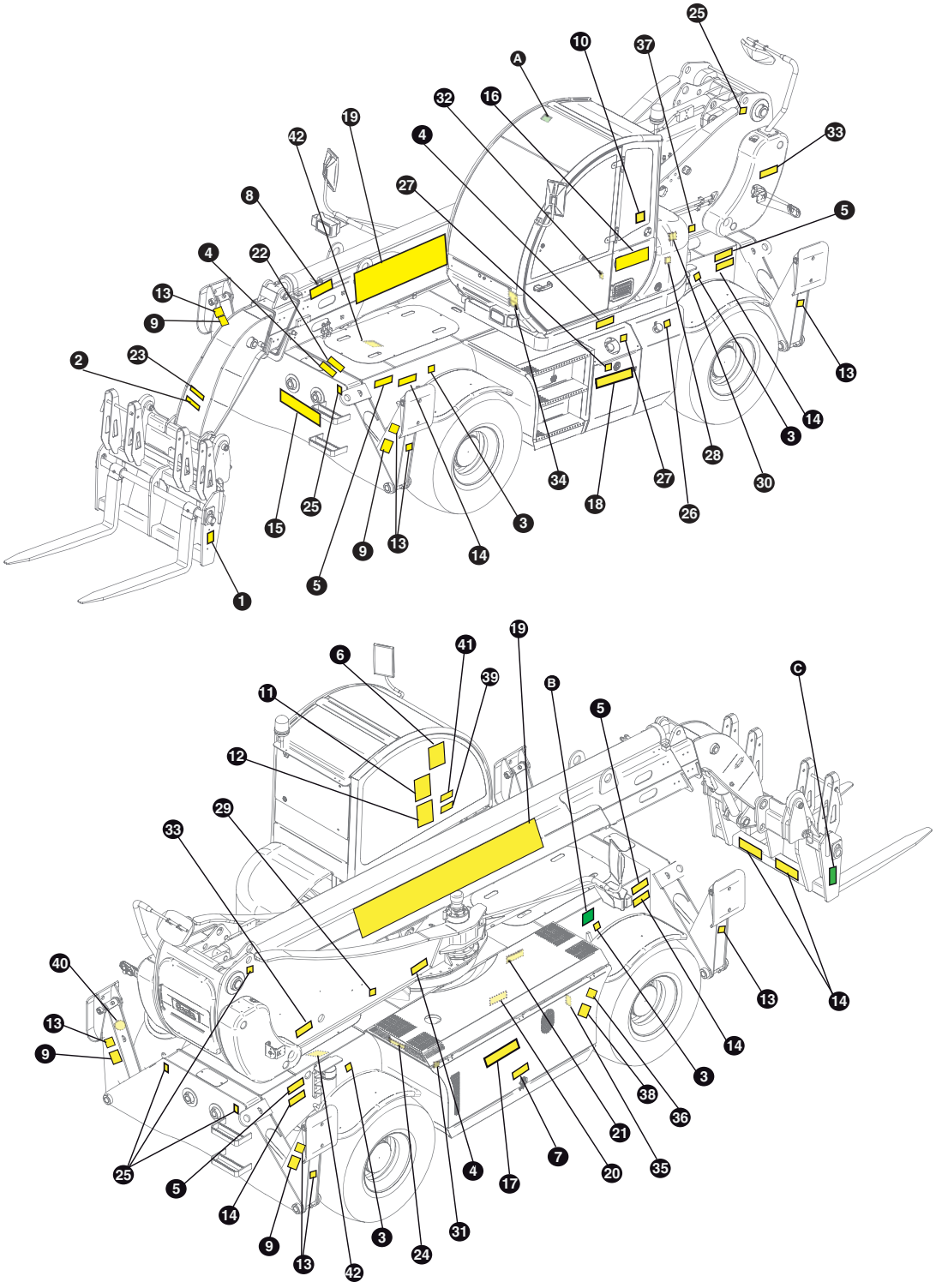
 Fuel Level	 Brake pressure	 Work Light	 Parking Brake	 Battery Charge
 Low Engine Oil Pressure	 Hydraulic Oil Filter Clogged	 Low Hydraulic Oil Level	 Turn Signals	 High Beam
 Hydraulic Oil Temperature Indicator	 Air Filter Restricted	 Glow Plugs Preheating	 High Coolant Tempe-rature	 Low Beam
 Steering Mode	 Cab Ventilation Fan	 Transfer Mode	 Hazard Warning Lights	 Position Lights
 1° Speed	 2° Speed	 Mechanical Gear	 Differential Lock	Emergency Pump
 Air Condition	 Aux. Hydr. Circuit	 Outriggers Control	 Mixing Bucket	

Symbols Used On The Machine

HAZARD PICTORIAL DESCRIPTIONS

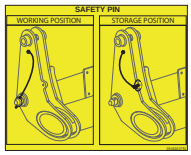
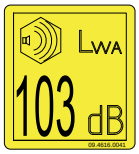
 Electrocution Hazard	 Maintain required clearance.	 Falling Object Hazard	 No people under load.	 Fall Hazard
 No riders.	 Burn Hazard	 Allow system to cool.	 Explosion/Burn Hazard	 No smoking. No open flame.
 Read the operator's manual.	 Support boom when performing maintenance.	 Crush Hazard	 Burn Hazard	 Allow surfaces to cool.
 Crush Hazard	 Keep away from moving parts.	 Crush Hazard	 Keep clear of moving parts.	 Allow compartment access
 Crush Hazard	 Keep clear of moving outriggers.	 Tip-over Hazard	 Crush Hazard	 Keep away from obstacles

Labels And Plates Applied On The Machine

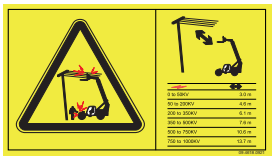


Labels And Plates Applied On The Machine

Use the pictures on these pages to verify that all decals are legible and in place.
The following chart shows quantities and description too.

Ref.	Decal	Code	Description	Qt.
1		09.4618.0791	**Safety pin operation**	1
2		09.4618.0784	**The capacity of the truck and attachment combination shall be complied with.**	1
3		09.4618.0547	**Tyre inflat. P= 5,5bar / 80psi**	4
4		09.4618.0918	**Falling Object Hazard**	3
5		09.4618.0919	**Crush Hazard**	4
6		09.4616.0041	**Sound power level**	1
7		09.4618.0920	**Compartment Access**	1
8	Kg 4000	09.4616.0040	**Max Capacity**	1

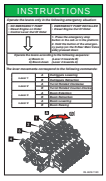
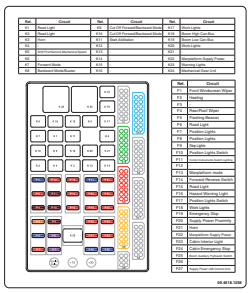
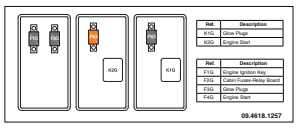
Labels And Plates Applied On The Machine

Ref.	Decal	Code	Description	Qt.
9		09.4618.1050	**Label - Stabilizer Max Pres.**	4
10		09.4618.0776	**Label - Upper Door Internal Unlock System**	1
11		09.4618.1191	**Quick guide and Control lever decal**	1
12		09.4618.0921	**Label - Use limits close to electric power lines**	1
13		09.4618.0933	**Crush Hazard**	8
14		09.4618.0922	**Crush Hazard**	7
15 16	Genie®	09.4618.0243 09.4618.0241	**Cosmetic - GENIE Logo in WHITE**	1 1

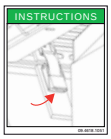
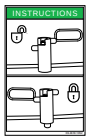
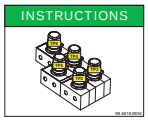
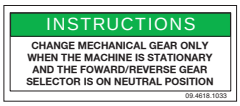
Labels And Plates Applied On The Machine

Ref.	Decal	Code	Description	Qt.
17	Genie GTH-4016 SR	09.4618.1108 09.4618.1109 09.4618.1061	**Cosmetic - Genie GTH-4016 SR**	1 1 2
18 19	Genie GTH-4018 SR	09.4618.1111 09.4618.1112 09.4618.1113	**Cosmetic - Genie GTH-4018 SR**	1 1 2
20		09.4618.0923	**Burn Hazard**	1
21		09.4618.0924	**Burn/Explosion Hazard**	1
22		09.4618.0925	**Crush Hazard**	1
23		09.4618.0926	**No Riders**	1
24		09.4618.0927	**Burn Hazard**	1
25		09.4618.0916	**Lift Point**	6
26		09.4618.0917	**Diesel Fuel Cap**	1
27		09.4618.0928	**Hydraulic Oil**	2

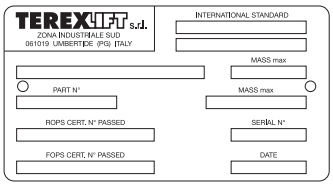
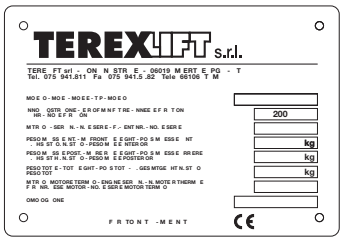
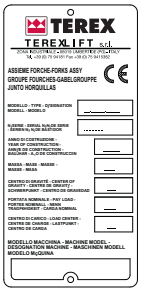
Labels And Plates Applied On The Machine

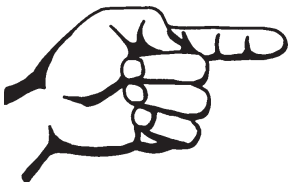
Ref.	Decal	Code	Description	Qt.
28		09.4618.1140	**Label - Manual Controls Instructions**	1
29		09.4618.1001	**Label - Maintenance Collar**	1
30		09.4618.1122	**Manual Controls Danger**	1
31		09.4618.0986	**Crush Hazard**	1
32		09.4618.1028	**Label - Parking Brake**	1
33		09.4618.1120	**Crush Hazard**	2
34		09.4618.1258	**Label -Cabin Fuses & Relays Board**	1
35		09.4618.1257	**Label - Engine Fuses & Relays Board**	1

Labels And Plates Applied On The Machine

Ref.	Decal	Code	Description	Qt.
36		09.4618.1051	**Instruction - Engine Cover Opening**	1
37		09.4618.1052	**Instruction - Turret Rotation Lock/Unlock**	1
38		09.4618.0934 09.4618.1189	**Instruction - Testing Ports GTH-4018 SR** **Instruction - Testing Ports GTH-4016 SR**	1 1
39		09.4618.1033	**Instruction - Mechanical Gear**	1
40		09.4618.1188	**Don't Step On**	4
41		09.4618.0171	**Boom Re-sequency** **ONLY FOR GTH-4016 SR**	1
42		09.4618.1255	**Ball Valve Position**	2

Labels and plates applied on the machine

Ref.	Decal	Code	Description
A		09.4616.0100	**ROPS-FOPS cab type-approval plate**. This plate shows the type-approval data of the driving cab according to ROPS - FOPS regulations.
B		09.4616.0122	**Machine data plate**. The identification plate contains the main identification data of the machine.
C		09.4616.0109	**Fork data plate**. This plate shows the main data of the fork installed on the machine.



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Safety precautions

DAMAGED MACHINE HAZARDS

- Do not use a damaged or defective machine.
- Do a thorough pre-operation inspection of the machine and test all functions before each work shift. Tag and remove from service a damaged or defective machine.
- Make sure that all maintenance jobs have been carried out as specified in this manual and the appropriate service manual.
- Make sure that all decals are in place and legible.
- Make sure that the operator's is intact, legible and placed in the special container located in the machine.

PERSONAL INJURY HAZARDS

- Do not operate the machine in case of hydraulic oil or air leak. Air or hydraulic oil leaks can penetrate or burn the skin.
- Always operate the machine in a well ventilated area to avoid carbon monoxide poisoning.
- Do not lower the boom if the area underneath is not clear of personnel or obstructions.

SAFETY DEVICES



Several safety devices have been fitted to the machine. They must never be tampered with or removed.
Regularly check the efficiency of such devices. In case of faults, stop working immediately and proceed in replacing the defective device.
For the checking procedures, read chap. "Maintenance".

MOMENT LIMITING SYSTEM

The moment limiting system has been developed to help the operator to maintain the machine longitudinal stability. Audible and visual messages are provided when the limits of longitudinal stability are being approached.
However this device cannot replace the experience of the operator. It is up to the user to adopt the necessary safety measures to work within the rated limits of the machine.

Safety precautions

Not observing the instructions and safety rules in this manual may result in death or serious injury.

Do not operate the machine unless:

- You learn and practice the principles of safe machine operation contained in this operator's manual.
  1. **Avoid hazardous situations.** Read and understand the safety instructions before going on to the next chapter.
  2. **Always perform a pre-operation inspection.**
  3. **Always test the machine functions prior to use.**
  4. **Inspect the work place.**
  5. **Only use the machine for the intended application.**

- Read, understand and obey the manufacturer's instructions and the safety rules, the safety and operator's manuals, and the decals applied on the machine.
- Read, understand and obey the employer's safety rules and worksite regulations.
- Read, understand and obey the applicable national regulations.
- Only trained personnel informed on the safety rules can operate the machine.

GENERAL REMARKS

Most accidents occurring while working, repairing or maintaining machines, are caused by not complying with the basic safety precautions.
Therefore, it is necessary to pay steady attention to the potential hazards and the effects that may come of operations carried out on the machine.

If you recognise hazardous situations, you can prevent accidents!

DANGER

The instructions given in this handbook are the ones established by TEREXLIFT. They do not exclude other safe and most convenient ways for the machine installation, operation and maintenance that take into account the available spaces and means.

If you decide to follow instructions other than those given in this manual, you shall absolutely:

- be sure that the operations you are going to carry out are not explicitly forbidden;
- be sure that the methods are safe, say, in compliance with the rules and provisions given in this section;
- be sure that the methods cannot damage the machine directly or indirectly or make it unsafe;
- contact TEREXLIFT Assistance Service for any suggestion and the necessary written permission.

Safety precautions

REQUISITES OF THE PERSONNEL IN CHARGE

Requisites of the MACHINE OPERATORS

The operators who use the machine regularly or occasionally (i.e. for transport reasons) shall have the following prerequisites:

health:
before and during any operation, operators shall never take alcoholic beverages, medicines or other substances that may alter their psycho-physical conditions and, consequently, their working abilities.

physical:
good eyesight, acute hearing, good co-ordination and ability to carry out all required operations in a safe way, according to the instructions of this manual.

mental:
ability to understand and apply the enforced rules, regulations and safety precautions. They shall be careful and sensible for their own as well as for the others' safety and shall desire to carry out the work correctly and in a responsible way.

emotional:
they shall keep calm and always be able to evaluate their own physical and mental conditions.

training:
they shall read and be familiar with this handbook, its enclosed graphs and diagrams, the identification and hazard warning plates. They shall be skilled and trained about the machine use.



The operator shall have a licence (or a driving licence) when provided for by the laws enforced in the country where the machine works. Please, ask the competent bodies. In Italy the operator must be at least 18 year old.

Requisites of the SERVICEMEN

The personnel charged with the machine maintenance shall be qualified, specialised in the maintenance of telehandlers, and shall have the following prerequisites:

physical:
good eyesight, acute hearing, good co-ordination and ability to carry out all required maintenance operations in a safe way, according to this manual.

mental:
ability to understand and apply the enforced rules, regulations and safety precautions. They shall be careful and sensible for their own as well as for the others' safety and shall desire to carry out the work correctly and in a responsible way.

training:
they shall read and be familiar with this handbook, its enclosed graphs and diagrams, the identification and warning plates. They shall be skilled and trained about the machine functioning.

NOTICE

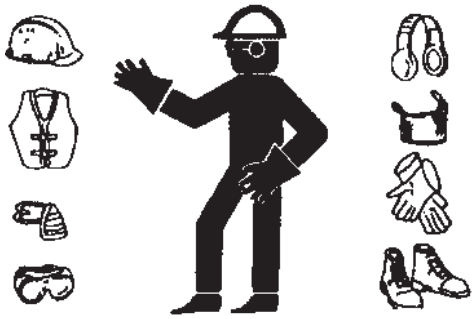
From a technical point of view, the ordinary maintenance of the machine is not a complex intervention and can be carried out by the machine operator, too, provided he has a basic knowledge of mechanics.

Safety precautions

■ WORKING CLOTHES

During work, but especially when maintaining or repairing the machine, operators must wear suitable protective clothing:

- Overalls or any other comfortable garments. Operators should not wear clothes with large sleeves or objects that can get stuck in moving parts of the machine.
- Protective helmet.
- Protective gloves.
- Working shoes.



Use only type-approved working clothing in good condition.

■ Personal PROTECTIVE EQUIPMENT

Under special working conditions, the following personal protective equipment should be used:

- Breathing set (or dust mask).
- Ear-protectors or equivalent equipment.
- Goggles or facial masks.

Use only type-approved protective equipment in good condition.

■ OTHER DANGERS

■ Hazards on the JOBSITE

Always take into account the features of the job site where you are going to work:

- Always examine the working area and compare it with the machine dimensions in the different configurations.

DANGER

The machine is not electrically insulated and does not provide protection from contact with or proximity to electrical power lines.
Always keep at a minimum safe distance from the telescopic boom and the lifted load. Electrical hazards!

DEATH OR INJURY CAN RESULT FROM CONTACTING ELECTRIC POWER LINES.					
ALWAYS CONTACT THE ELECTRIC POWER LINES OWNER. THE ELECTRIC POWER SHALL BE DISCONNECTED OR THE POWER LINES MOVED OR INSULATED BEFORE MACHINE OPERATIONS BEGIN					
POWER LINE VOLTAGE			*REQUIRED CLEARANCE*		
0	*to*	*50 kV*	*10 ft*	*3.00 m*	
50	*to*	*200 kV*	*15 ft*	*4.60 m*	
200	*to*	*350 kV*	*20 ft*	*6.10 m*	
350	*to*	*500 kV*	*25 ft*	*7.62 m*	
500	*to*	*750 kV*	*35 ft*	*10.67 m*	
750	*to*	*1000 kV*	*45 ft*	*13.72 m*	

- Keep away from the machine in case of contact with energized power lines. Personnel on the ground must never touch or operate the machine until energized power lines are shut off.

DANGER

Do not at any time use the machine during a storm.

Safety precautions

- The machine shall be parked on a ground adequate to the maximum admissible payload. If the subsoil collapses, the machine could tip over. To avoid any risk of overturning, the following precautions should be taken:

1. Ask your employer (site manager or manager assistant) if there may be buried pipes, pits, old tanks, cellar floor, dung yards, etc. under the ground onto which the outriggers shall be lowered.
2. A rough estimate of the ground consistency can be done using the tables and picture in this page.
3. The resistance of the subsoil is in relation to the ground type and geomorphological characteristics.
   Table 1 indicates the superficial pressure which can be admitted under the outriggers of the machine.

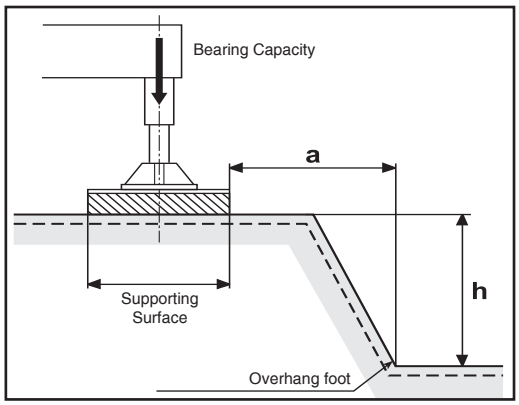
Type of ground, geomorphological features		**Admissible superficial pressure**	
		kg/cm²	**N/mm²**
loose, non-compact soil		generally speaking, not solid; special precautions needed	
loamy, peaty,pasty soil			
rippable, soft ground			
non-cohesive, well compact soil, sand, gravel		**2.0**	**0.2**
rippable soil	solid	**1.0**	**0.1**
	semi-solid	**2.0**	**0.2**
	hard	**4.0**	**0.4**
Rocks, concrete, heavy traffic paved roads		**above 10.0**	**above 1.0**

Table 1

WARNING

Make sure the machine (wheels and stabilisers) rests on a firm ground to prevent hazardous unstable conditions.
If the ground is not firm enough, position some supporting planks under the stabilisers or the wheels. These plates must grant a specific pressure of 1.2 to 1.5 kg/cm² (800x800mm plates are sufficient).

- Look for the best route to the job site.
- When the machine is running, nobody can enter its working range.
- While working, keep the working area in order. Never leave objects scattered: they could hinder the machine movements and represent a danger for personnel.
- In presence of trenches, lower the outriggers at a safe distance from the trench edge.



The distance (a) from the foot of the overhang shall be adequate to height (h) of the same overhang.
If the ground fulfils the required conditions:

a : h = 1 : 1

(values with a grey background in table 1)
In the case of doubts:

a : h = 2 : 1

Safety precautions

■ OPERATION or MAINTENANCE hazards

Before any operation, following precautions should be taken:

- First of all, make sure that the maintenance interventions have been carried out with care according to the established schedule.

⚠WARNING

Set the machine to working configuration and sway it. Use the special inclinometer to the right of the driving place to check that the machine is level before operating it.

- Ensure you have enough fuel to avoid a sudden stop of the engine, especially during a crucial manoeuvre.
- Clean instruments, data plates, lights and the cab windscreen thoroughly.
- Check the correct functioning of all the safety devices installed on the machine and in the job site.
- In case of troubles or difficulties, inform the foreman at once. Never start working under unsafe conditions.
- Do not carry out any repair work in a makeshift way to start working!

During work, and especially maintenance, always pay the greatest attention:

- Do not walk or stop under raised loads or machine parts supported by hydraulic cylinders or ropes only.
- Keep the machine handholds and access steps always clean from oil, grease or dirt to prevent falls or slips.



- When entering/leaving the cab or other raised parts, always face the machine; never turn the back.



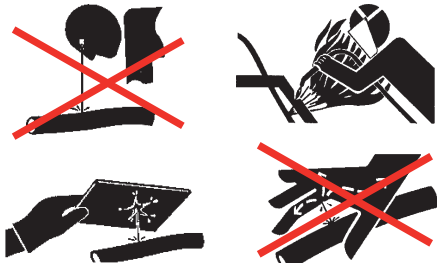
- When carrying out operations at hazardous heights (over **1.5** meters from the ground), always use approved fall restraint or fall arrest devices.
- Do not enter/leave the machine while it is running.
- Do not leave the driving place when the machine is running.
- Neither stop nor carry out interventions under or between the machine wheels when engine is running. When maintenance in this area is required, stop the engine.
- Do not carry out maintenance or repair works without a sufficient lighting.
- When using the machine lights, the beam should be oriented in order not to blind the personnel at work.
- Before applying voltage to electric cables or components, check their connection and proper functioning.
- Do not carry out interventions on electric components with voltage over **48V**.
- Do not connect wet plugs or sockets.
- Plates and hazard warning stickers shall never be removed, hidden or become unreadable.
- Except for maintenance purposes, do not remove safety devices, shields, protection cases, etc. Should their removal be necessary, stop the engine, remove them with the greatest care and always remember to refit them before starting the engine and using the machine again.
- Before any maintenance or repair work, stop the engine and disconnect the batteries.

Safety precautions

- Do not lubricate, clean or adjust moving parts.
- Do not carry out operations manually when specific tools are provided for this purpose.
- Avoid the use of tools in bad condition or use in an improper way i.e. pliers instead of adjustable wrenches, etc.
- Applying loads in different points of the attachment holding plate is forbidden.

WARNING

Any intervention on the hydraulic circuit must be carried out by authorised personnel.
The hydraulic circuit of this machine is fitted with pressure accumulators. You and others could be seriously injured if accumulators are not completely depressurised.
For this purpose, shut the engine down and step on the brake pedal 8/10 times.



- Before carrying out operations on hydraulic lines under pressure or disconnecting hydraulic components, ensure the relevant line has been previously depressurised and does not contain any hot fluid.
- Do not empty catalytic mufflers or other vessels containing burning materials without taking the necessary precautions.
- After any maintenance or repair work, make sure that no tool, cloth or other object has been left within machine compartments, fitted with moving parts, or where suction and cooling air circulates.
- When working, do not give instructions or signs to several people at the same time. Instructions and signs must be given by one person only.
- Always pay due attention to the instructions given by the foreman.
- Never distract the operator during working phases or crucial manoeuvres.
- Do not call an operator suddenly, if unnecessary.
- Do not frighten an operator or throw objects by any means.
- After work, never leave the machine under potentially dangerous conditions.

■ MACHINE OPERATION hazards

Absolutely avoid the following work situations:

- Do not handle loads beyond the maximum capacity of the machine.
- Do not raise or extend the boom if the machine is not on a firm, level surface.
- Do not operate the machine in strong wind. Do not increase the surface area of the machine or forked load exposed to the wind. Increasing the area exposed to the wind will decrease machine stability.
- Use extreme caution and slow speeds when the machine is driven across uneven or unstable grounds, slippery surfaces or near trenches or drop-offs.
- Limit travel speed according to ground conditions, slopes, presence of personnel or other factors which may cause collision.
- Do not place or attach overhanging loads to any part of the machine.

■ EXPLOSION OR FIRE hazards

- Do not start the engine if you smell or detect LPG, gasoline, diesel fuel or other explosive substances.
- Do not refuel the machine with the engine running.
- Refuel the machine and charge the battery only in a well ventilated area away from sparks, naked flames and lighted cigarettes.

Safety precautions

- Do not operate the machine in dangerous environments or in places with flammable or explosive gases or materials.
- Do not inject ether in engines equipped with glow plugs.
- Do not leave fuel cans or bottles in unsuitable places.
- Neither smoke nor use open flames in areas subject to fire dangers and in presence of fuel, oil or batteries.
- Carefully handle all flammable or dangerous substances.
- Do not tamper with fire-extinguishers or pressure accumulators.

■ DAMAGED COMPONENT hazards

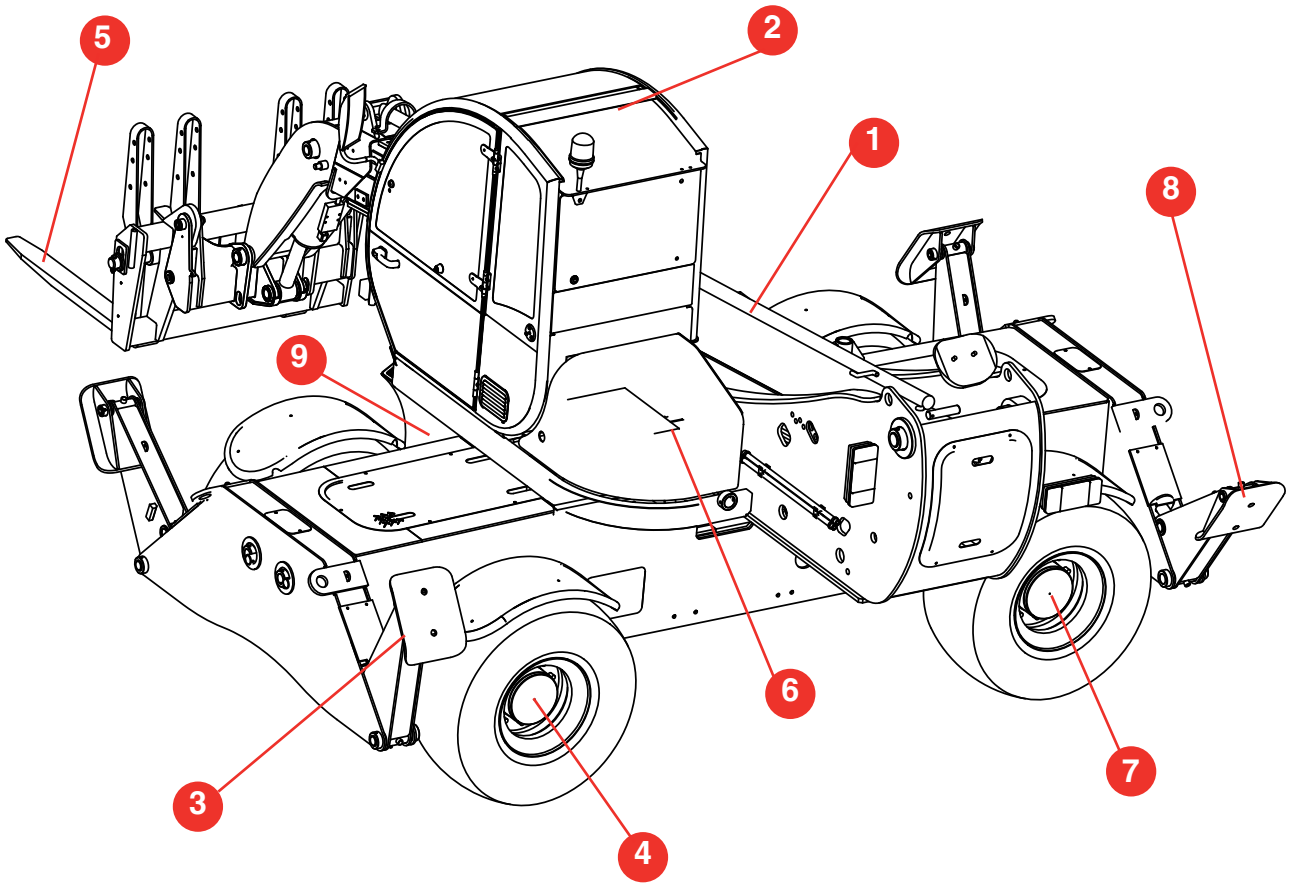
- Do not use battery chargers or batteries with a voltage above 12V to start the engine.
- Do not use the machine as a ground for welding.



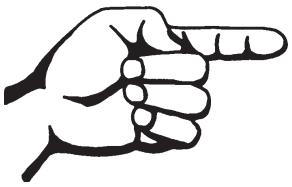
■ PERSONAL INJURY hazards

- Do not operate the machine in case of hydraulic oil or air leak. Air or hydraulic oil leaks can penetrate or burn the skin.
- Always operate the machine in a well ventilated area to avoid carbon monoxide poisoning.
- Do not lower the boom if the area underneath is not clear of personnel or obstructions.

Description Of The Main Components

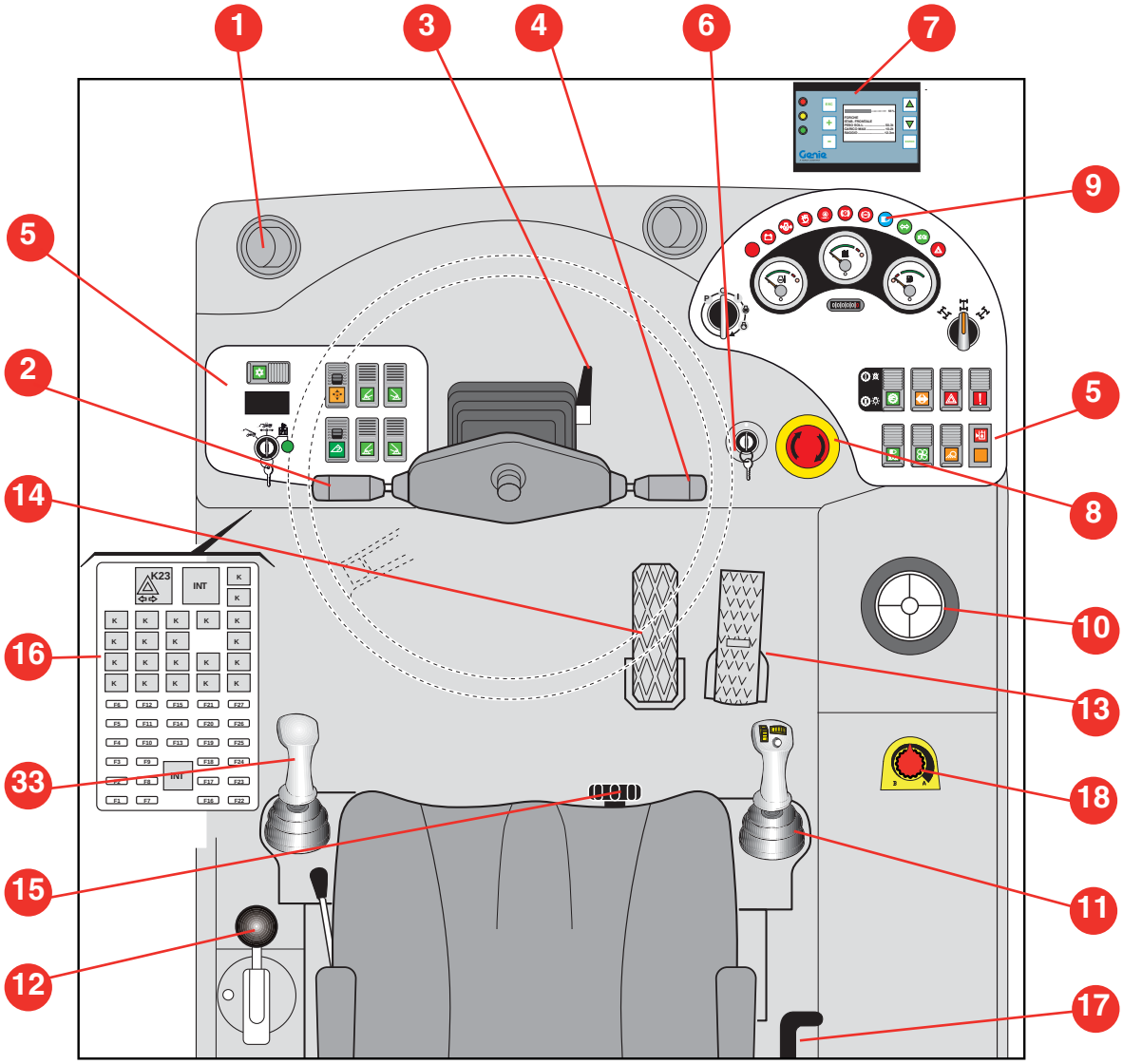


1. Telescopic boom
2. Driving cab according to ROPS-FOPS
3. Rear outriggers
4. Rear axle
5. Fork
6. Main valve compartemnt
7. Front axle
8. Front outriggers
9. Engine compartment



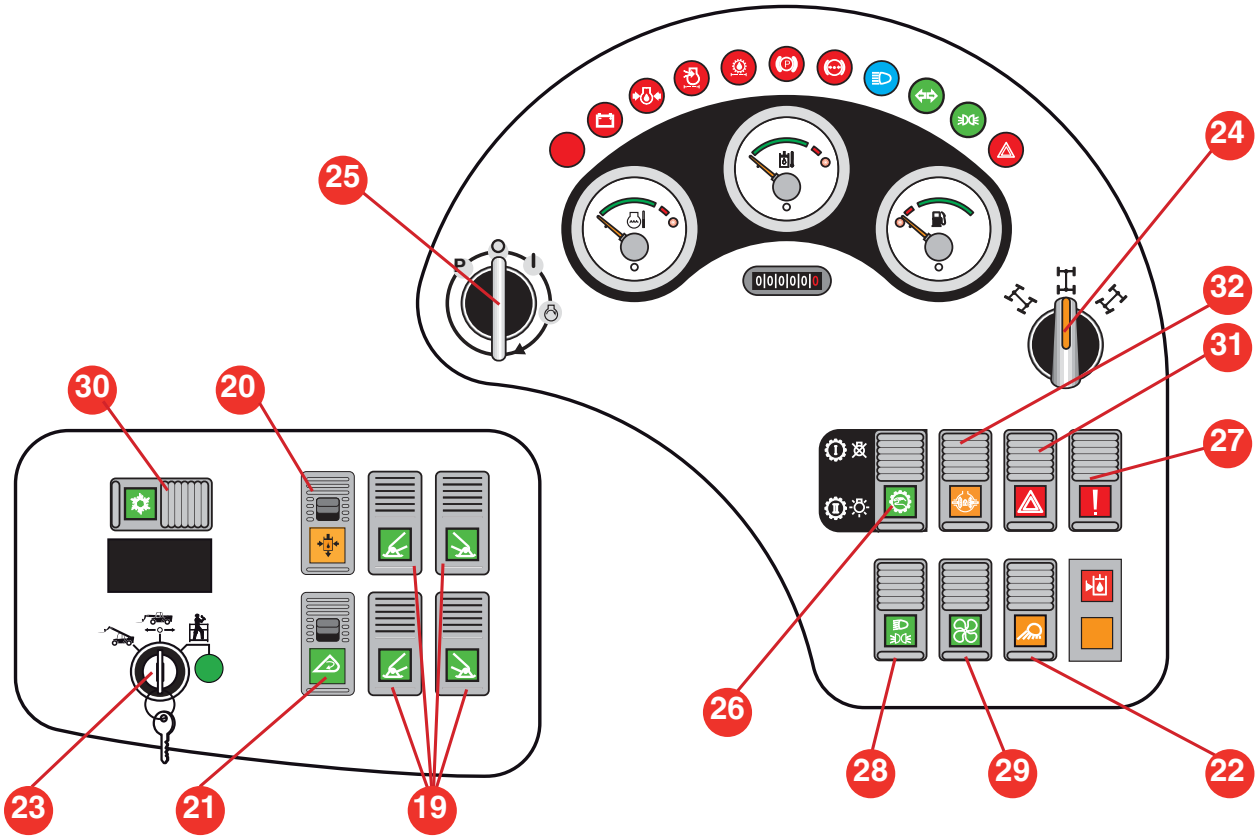
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Controls and Instruments



1. Fresh Air Flap
2. Forward/Reverse Gear Selector
3. Steering Column Angle Adjustment
4. Turn Signals - Wiper - Horn - Lights
5. Auxiliary Drive Controls
6. Load Limiter Disable Selector
7. Load Moment Indicator
8. Emergency Stop Pushbutton
9. Instruments Dashboard
10. Inclinometer
11. Multipurpose Control Lever
12. Parking Brake Lever
13. Gas Pedal
14. Service Brake Pedal
15. Cab Heater Control Cock
16. Fuses And Relays Board
17. Manual Accelerator
18. Turret Rotation Speed Potentiometer
33. Left Lever (*OPTIONAL*)

Controls and Instruments



19. Outriggers Switches
20. Auxiliary Hydraulic Circuit Switch (*OPTIONAL*)
21. Mixing Bucket Switch (*OPTIONAL*)
22. Work Lights Switch (*OPTIONAL*)
23. Cab/Road/Platform Selector
24. Steering Mode Selector
25. Ignition Switch
26. Mechanical Gear Switch
27. Emergency Pump Switch (*ONLY with MAN-PLATFORM)*
28. Road Lights Switch
29. Cab Heater Fan Switch
30. Air Condition Switch (*OPTIONAL*)
31. Hazard Warning Lights Switch
32. Differential Lock Switch

Controls and Instruments

25 _ Ignition Switch

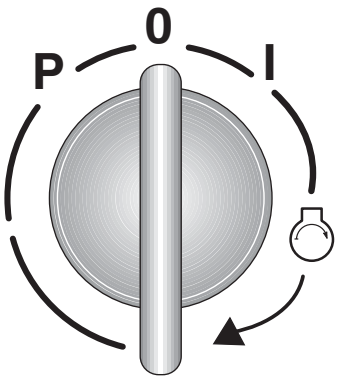
Four-position switch:

P Position of the ignition key to switch the controls from cab to platform.

0 No circuit under voltage, key can be removed and engine is stopped.

I Circuits under voltage, presetting for the engine starting. Board controls and instruments are on.

Engine starting; when released, key springs back to pos. **I** automatically.



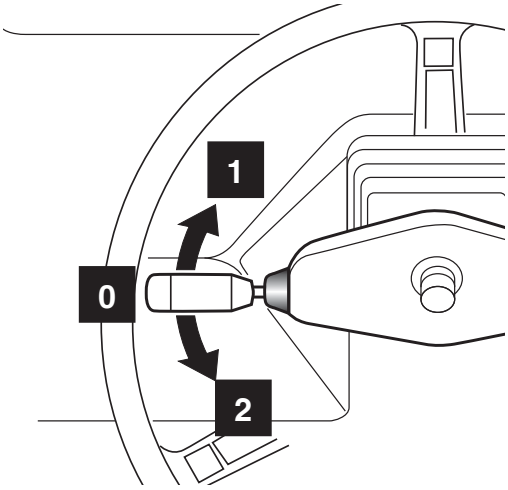
2 _ Forward/Reverse Gear Selector

Three-position switch with lock in neutral position:

0 Neutral position; no gear engaged

1 Shift lever to pos. 1 to select the forward gear

2 Shift lever to pos. 2 to select the reverse gear

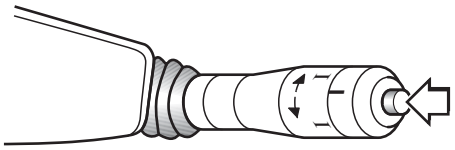


Controls and Instruments

4 _ Turn Signals - Windscreen Wiper - Horn - Lights

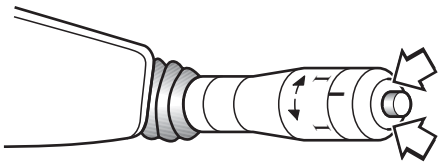
Horn function:

When sliding the lever along its axis, horn switches on, independently from other pre-set functions.



Windscreen washer function:

Push the second stage of the lever along its axis to direct a jet of water onto the cab windscreen.



Windscreen wiper function:

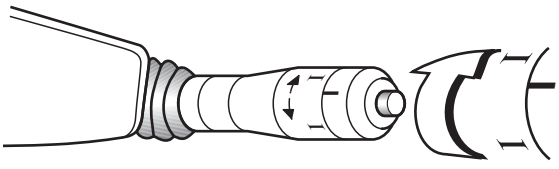
To operate the windscreen wiper, rotate the lever tip to one of the four positions:

I Intermittence (not activated)

0 Wiper OFF

J Low speed

I I High speed



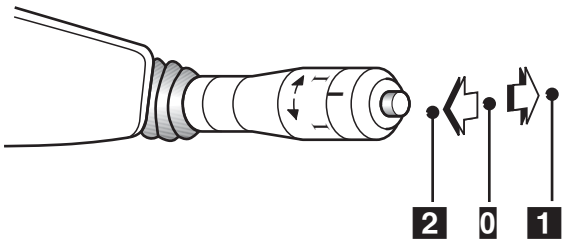
Lights function:

To switch the handler lights, lever can be set to three different positions along its horizontal axis:

0 low beam ON, stable condition

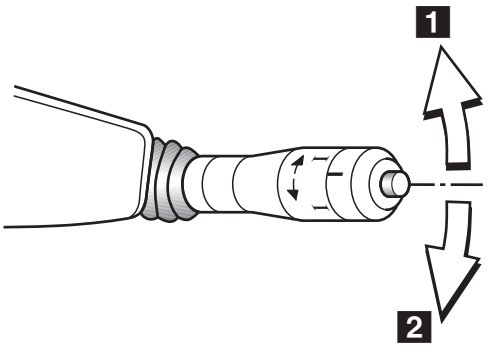
1 high beam ON, stable condition

2 high beam used for intermittent signalling; when released, the lever springs back to position **0**.



Turn signals function:

Set lever to pos. **1** to indicate a turn leftwards or to pos. **2** to indicate a turn rightwards.



Controls and Instruments

Brakes

14 _ Service Brake Pedal

Gradually step on the brake pedal to decelerate and stop the machine. The pedal operates on the front axle.
Fully depressing the brake pedal causes a reset of the displacement of the power drive pump and makes the braking action more powerful.

12 _ Parking Brake Lever

To engage the parking brake, pull the lever upward while holding the locking button pressed down. Release the button when reaching the required braking tension. It operates on the axle shafts of the rear axle and, when engaged, it cuts both forward and reverse gear off.

CAUTION

Never use the parking brake to slow down the machine, unless in an emergency. It may reduce the brake efficiency.

Accelerator Control

13 _ Throttle Pedal

Its pressure controls the engine rpm and the machine speed. It is fitted with an adjustable stop in the lower part.

17 _ Manual Accelerator

By pulling the lever up, the engine rpm increases gradually. To reduce the rpm, set the lever down.

The manual gas control can only be used with man-platform, winch, mixing bucket, hook and maintenance jib.

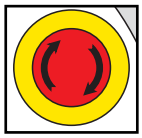
Safety and Emergency Devices

31 _ Hazard Warning Lights Switch



Fitted with on-off position, it switches on the turn signals simultaneously. When the hazard warning light is lit, the relevant switch and the turn signals light start flashing.

8 _ Emergency Stop Pushbutton



By pressing this button, the engine of the machine is shut down.
Before restarting the machine, it is necessary to reset the pushbutton by rotating it clockwise.

27 _ Emergency Pump Switch (OPTIONAL)

Two position switch:



0 OFF

1 Hold pressed down to turn on the electric pump and operate the controls

CAUTION

Check the operation of the emergency pump every week as it could get damaged if it is not used.

6 _ Load Limiter Disable Selector

The load limiter can be deactivated operating the key-selector placed under the protection cover.

DANGER

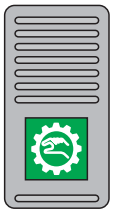
WORKING WITH THE LOAD LIMITING SYSTEM CUT OUT CAN RESULT IN A MACHINE OVERTURNING AND IN SERIOUS INJURY.

The load limiting system disconnect key is active only in the* Jobsite mode. *In the* Platform mode, *the limiting system cannot be deactivated.

Controls and Instruments

26 _ Mechanical Gear Switch

Pushbutton with green glass cap, it is used to engage 1st or 2nd gear. Push the button to select the required speed: each pressure corresponds to the selection of a new speed.



0 No speed change

1 Engage a new speed

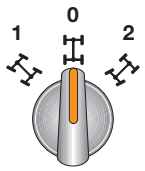
The green glass cap swtiches on only when the second speed is engaged.

To select a new speed you must control that the machine is not moving and that the forward/ reverse gear selector switch is in neutral position.

■Steering Mode Selection

24 _ Steering Mode Selector

Three-position switch for the selection of the steering mode:



1 Crab steering

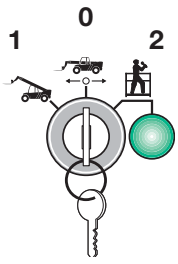
0 Two-wheel steering

2 Four-wheel steering

■ Job-site/Road/Platform Selection

23 _ Job-site/Road/Platform Selector

Three-position switch:



1 Job-site setting (operate the handler by the cab controls)

0 Road setting

2 Platform setting (operate the handler by the platform controls) The green light indicator lights up.

In **Jobsite** mode:

- all the machine functions are enabled

In **Road transfer** mode:

- the boom movement, turret rotation and outriggers movements are disabled
- only the two-wheel steering mode is enabled

In **Platform** mode:

- the only enabled functions are: boom lowering/ lifting and boom extraction/retraction
- all the controls from the cabin are disadleb

Controls and Instruments

■ Auxiliary Drive Controls

29 _ Cab Heater Fan switch

Three-position switch:



0 OFF

1 Low speed

2 High speed

32 _ Differential Lock Switch

Two-position switch. The pressure of this button causes the locking of the differential:



0 Differential Lock OFF

1 Differential Lock ON

28 _ Road lights switch

Three-position switch



0 Lights OFF

1 Position lights ON (the switch indicator lights up partially).

2 Low beam ON (the switch indicator fully lights up).

30 _ Air Condition Switch (OPTIONAL)

Two-position switch:



0 OFF

1 ON

22 _ Work Lights Switch (OPTIONAL)

Two-position switch

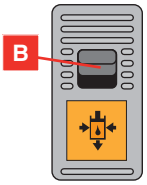


0 Lights OFF

1 Lights ON

20 _ Auxiliary Hidraulic Circuit (OPTIONAL)

Two-position switch. The pressure of this button causes the switching of the hydraulic circuit for the movement of the attachments equipped with auxiliary lines.



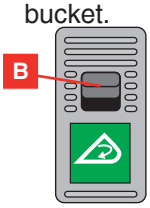
0 Oil to the main circuit

1 Attachments hydraulic circuit Switching

The selector has a block to keep the switch pressed. Before switching the selector to another position, unlock control **B** at the top of the selector.

21 _ Mixing Bucket Switch (OPTIONAL)

Two-position switch. The pressure of this button enables the movement of the internal mixer of the bucket.



0 Mixer OFF

1 Mixer ON

The selector has a block to keep the switch pressed. Before switching the selector to another position, unlock control **B** at the top of the selector.

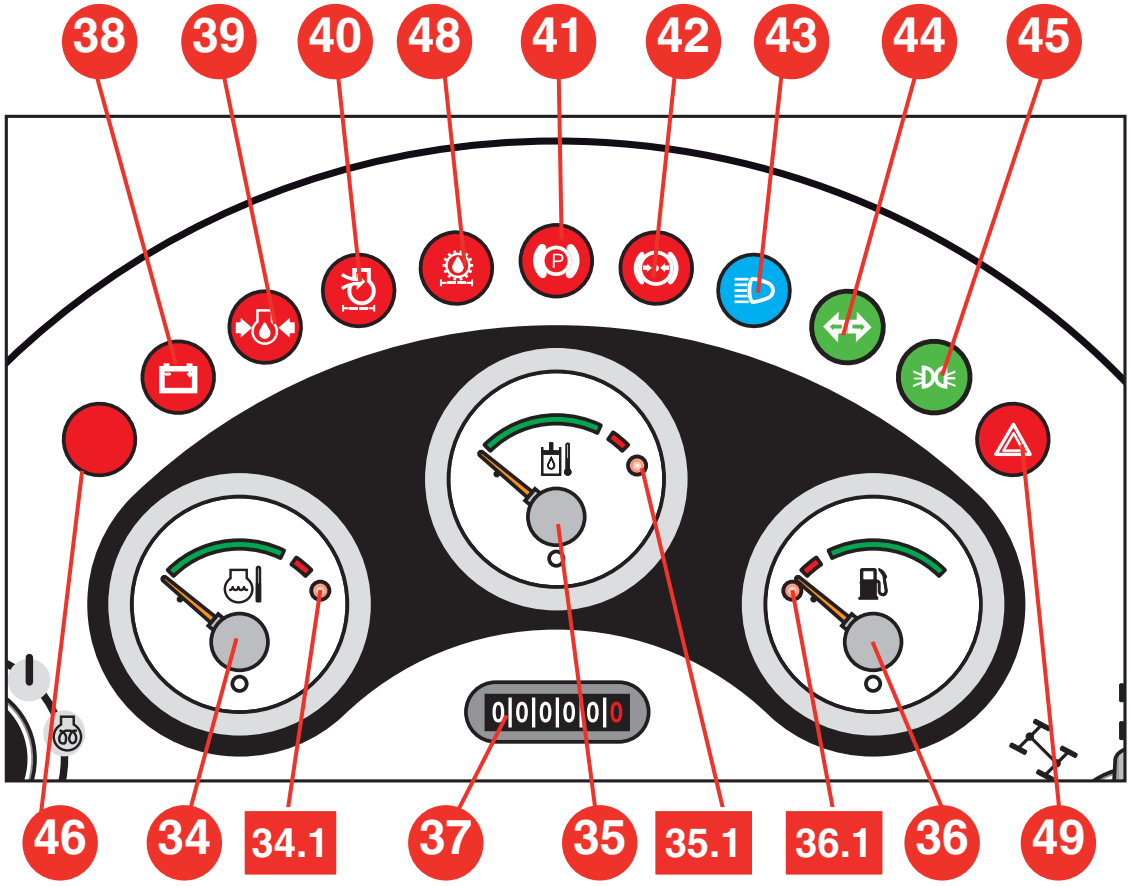
15 _ Cab heater control cock

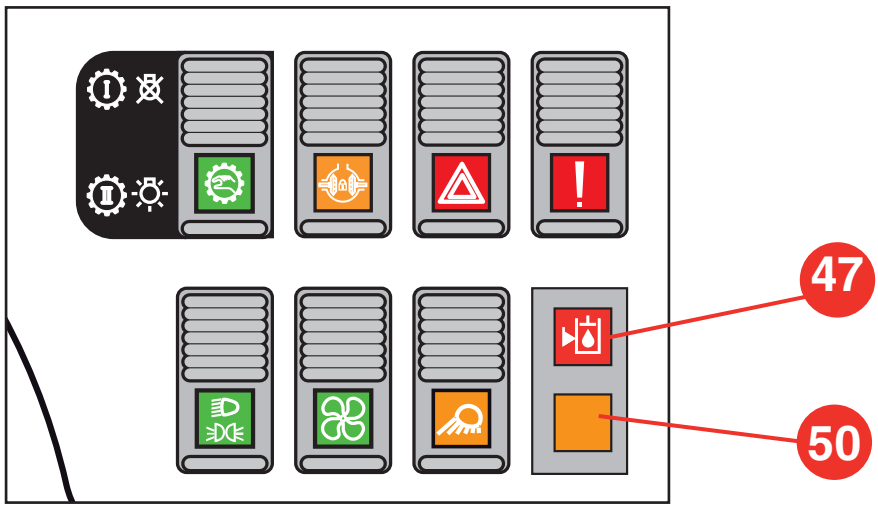
Located on the left side of the driving seat base.

- Turn the cock clockwise to switch off heated air.
- Turn the cock counter-clockwise to switch on the cab heater.
- Adjust the flow of heated air in the cab operating the switch **29**.

Controls and Instruments

■ Warning Lights and Instruments (ref. 9)





Controls and Instruments

DESCRIPTIONS

34 _ Engine coolant temperature indicator
This indicates the engine coolant temperature. If the finger is in the red zone and the warning light **34.1** comes on, you must stop the machine and find and rectify the problem.

35 _ Hydraulic oil temperature indicator
This indicates the temperature of the hydraulic oil in the tank. If the temperature rises above the permissible value or the warning light **35.1** comes on, you must stop the machine and find and rectify the problem.

36 _ Fuel gauge
This indicates the fuel level in the tank.
If the fuel level is low (reserve), the relevant warning light **36.1** comes on.

37 _ Hour-meter
Signals the total operating hours of the machine. Use the hour-meter to gauge the routine maintenance jobs.

38 _ Warning light - low battery charge
Signals a low charge by the alternator.

39 _ Warning light - low engine oil pressure
It lights when the engine oil pressure is too low.

40 _ Warning light - air filter restricted
When this lamp come on, proceed with cleaning or changing the air filter cartridge.

41 _ Warning light - parking brake engaged
When ON, this light indicates that the parking brake is engaged.

42 _ Warning light - low brake pressure
It lights when the pressure of the braking circuit is too low for a correct functioning.

43 _ Warning light - high beam
Warning light that signals when high beam is ON.

44 _ Warning light - turn signals
Indicator light that signals when turn signals are ON.

45 _ Warning light - position lights
Warning light that signals when position lights are ON.

46 _ Warning light - glow plugs preheating
This light comes on during the pre-heating of the engine glow plugs.

47 _ Warning light - low hydraulic oil level
This light comes on to alert to a low level of the hydraulic oil for a correct functioning. Replenish and eliminate the oil leak.

48 _ Warning light - hydraulic oil filter clogged
When this lamp sets to on, immediately change the oil filter on the return line to the tank.

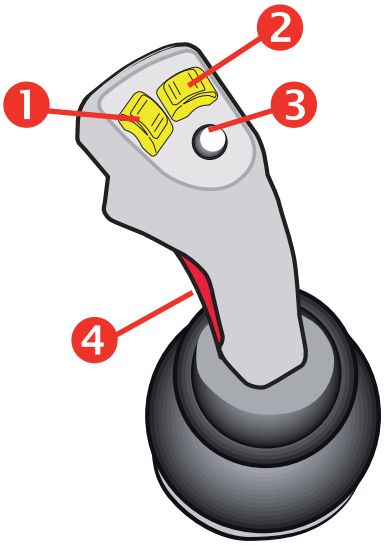
49 _ General alarm warning light
This red light comes on to warn of a problem of the machine. Contact the TEREXLIFT Service Centre.

50 _ Warning light - machine levelling (ONLY WITH MAN-PLATFORM)
Indicator light that signals when the machine on outriggers (LMI display shows "OUTRIGGERS FRONTAL or LATERAL"), is levelled within a range of -/+ 2°.

Controls And Instruments

CONTROL LEVER

The handlers are equipped with one multipurpose joystick **11** that let you operate all the machine movements.
It is installed to right side of the driver's seat. At the front of the joystick, there is the enabling function switch **4** which must be held pressed down until the manoeuvre has been completed. If this button is not pressed, shifting the joystick to any direction won't activate any function.
The joystick can be shifted to any of the four directions, that is forward, backward, to the right or to the left.



Seize the control lever correctly and move it gently.
The motion speed of the actuators depends on the lever position: a small motion results in a slow motion of the actuators; vice versa, a full range motion of the lever corresponds to the max. speed of the actuator.

CAUTION

The control lever shall be operated only when correctly seated in the driving place.



DANGER

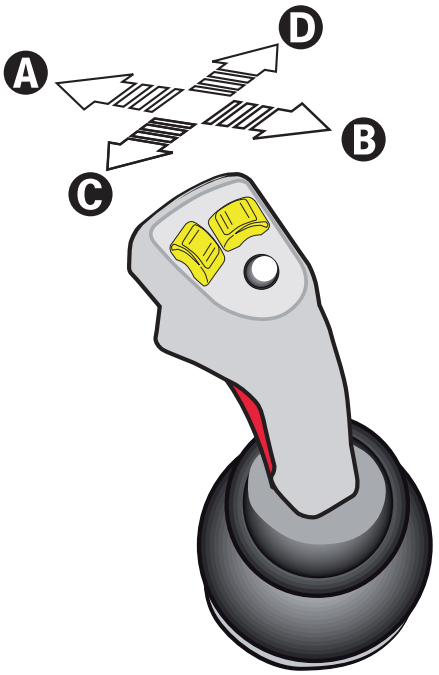
Before operating the control lever, make sure that nobody is within the working range of the machine.

Controls And Instruments

Function Selection

Once the enabling function switch **4** has been pressed, you can use the joystick to activate the following functions:

- **Boom lowering/lifting**
  To activate the function, shift the joystick to **A - B**.
- **Telescope retraction/extension**
  To activate the function, move the roller **1** to **A - B** without shifting the joystick.
- **Attachment frame forward/back pitching**
  To activate the function, shift the joystick to **C - D**.
- **Attachment coupling/release**
  To activate the function, hold button **3** pressed down and move the joystick to **C** or **D**
- **Turret rotation**
  To activate the function, move the roller **2** to **C - D** without shifting the joystick



If, during operation, switch** 4 **is released for more than 0.5 seconds, the movement stops.
To restart the movement, re-select the function.

Controls And Instruments

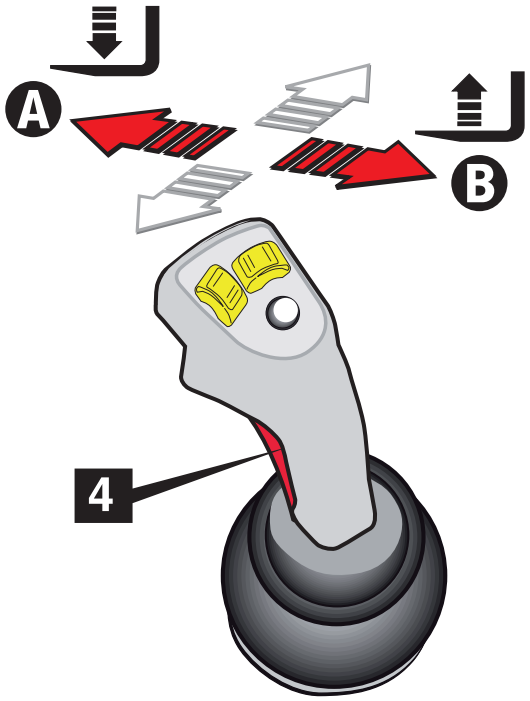
■ Lifting/Lowering The Boom

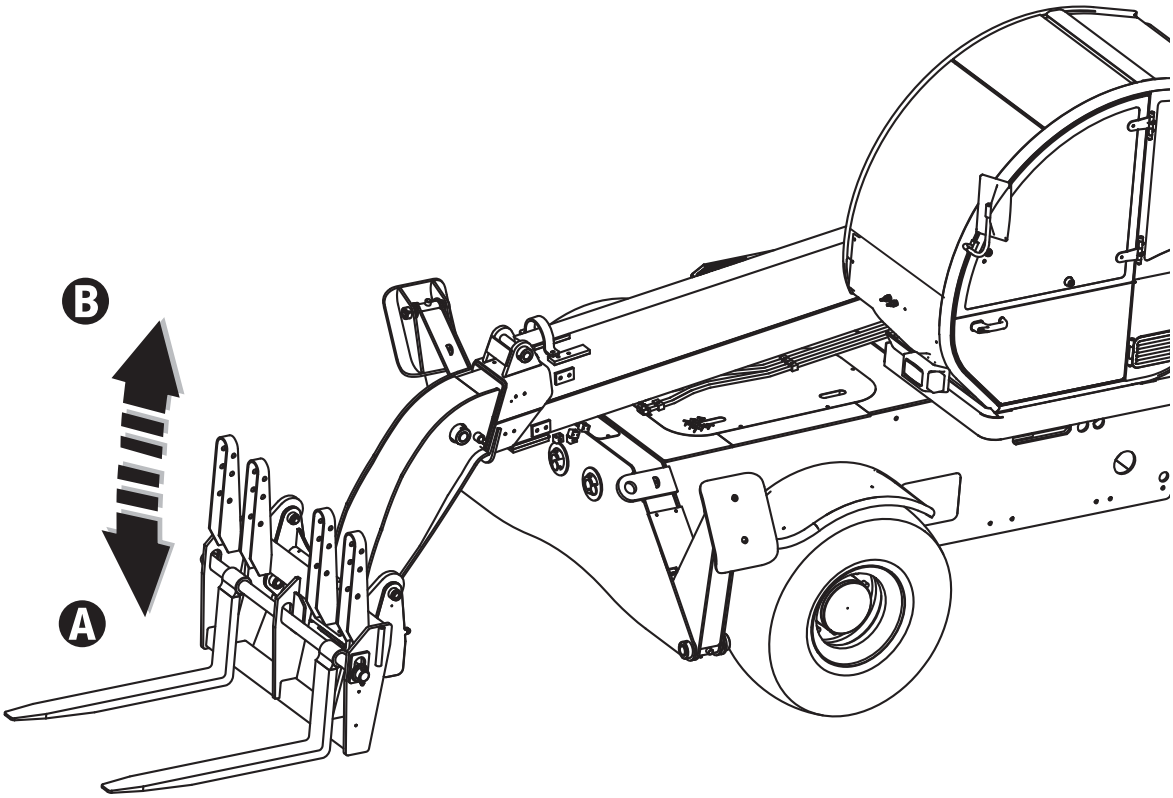
DANGER

Before operating the boom, make sure that nobody is within the working range of the machine.

To lift or lower the boom:

- Set the control lever to central position and press switch **4**.
- Smoothly shift the lever to position **B** to lift the boom; shift the lever to position **A** to lower the boom.



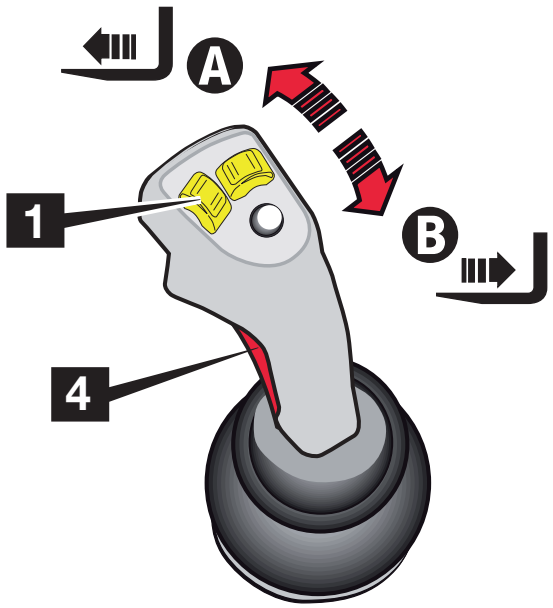


Controls And Instruments

Extending/Retracting The Boom

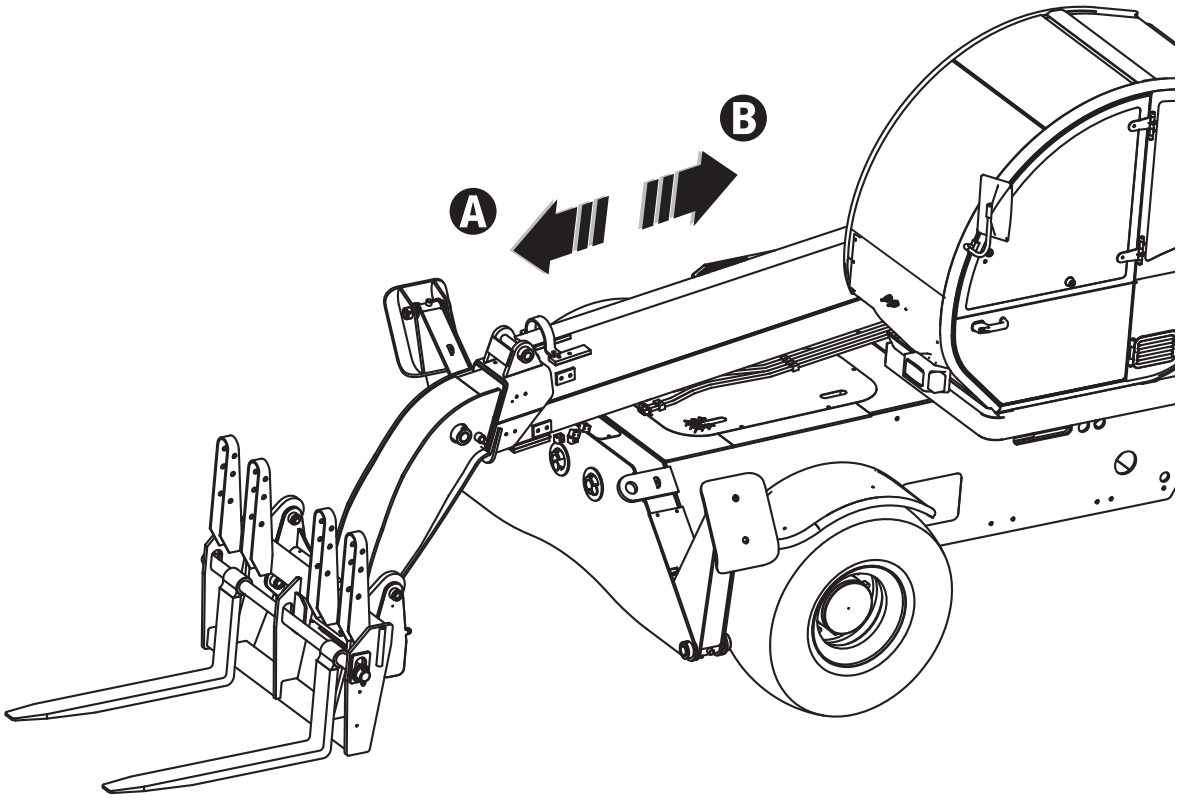
DANGER

Before operating the boom, make sure that nobody is within the working range of the machine.



To extend or retract the boom telescopes:

- Set the control lever to central position and press switch **4**.
- move the roller **1** to **A** to move out the boom telescope, without shifting the joystick; move the roller to **B** to move out the boom telescope, without shifting the joystick.



Controls And Instruments

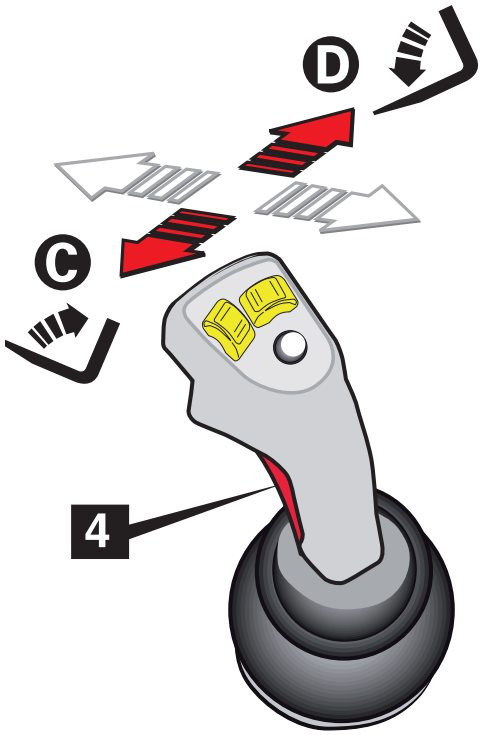
■ Pitching The Attachment Holding Frame Forward/Back

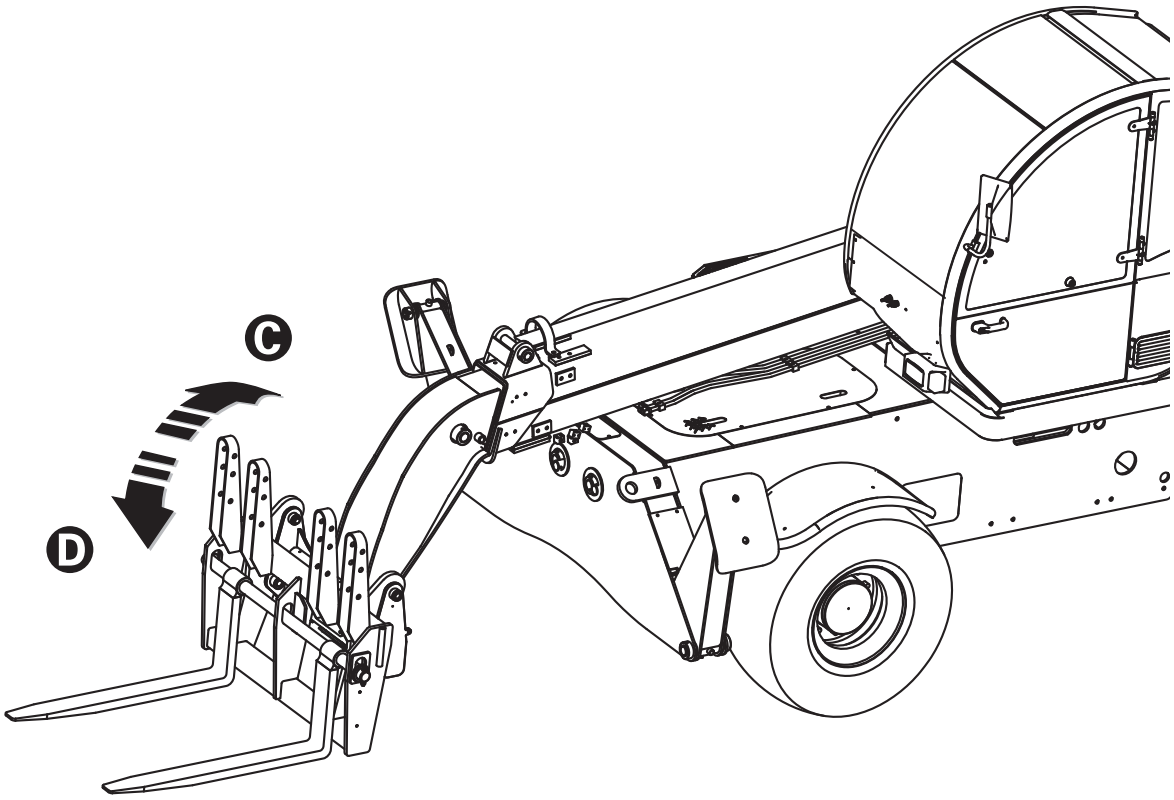
DANGER

Before operating the boom, make sure that nobody is within the working range of the machine.

To pitch forward/back the attachment holding frame:

- Set the control lever to central position and press switch **4**.
- Smoothly shift the lever to position **D** to pitch the holding plate forward; shift the lever to position **C** to pitch the plate back.





Controls And Instruments

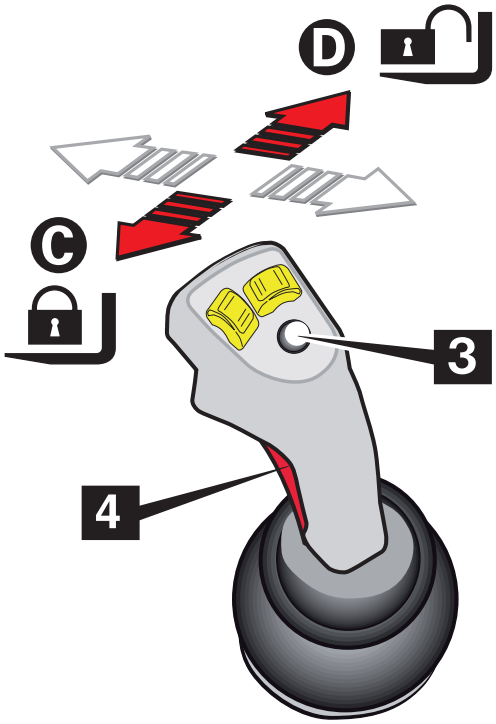
Quick-Coupling The Attachments

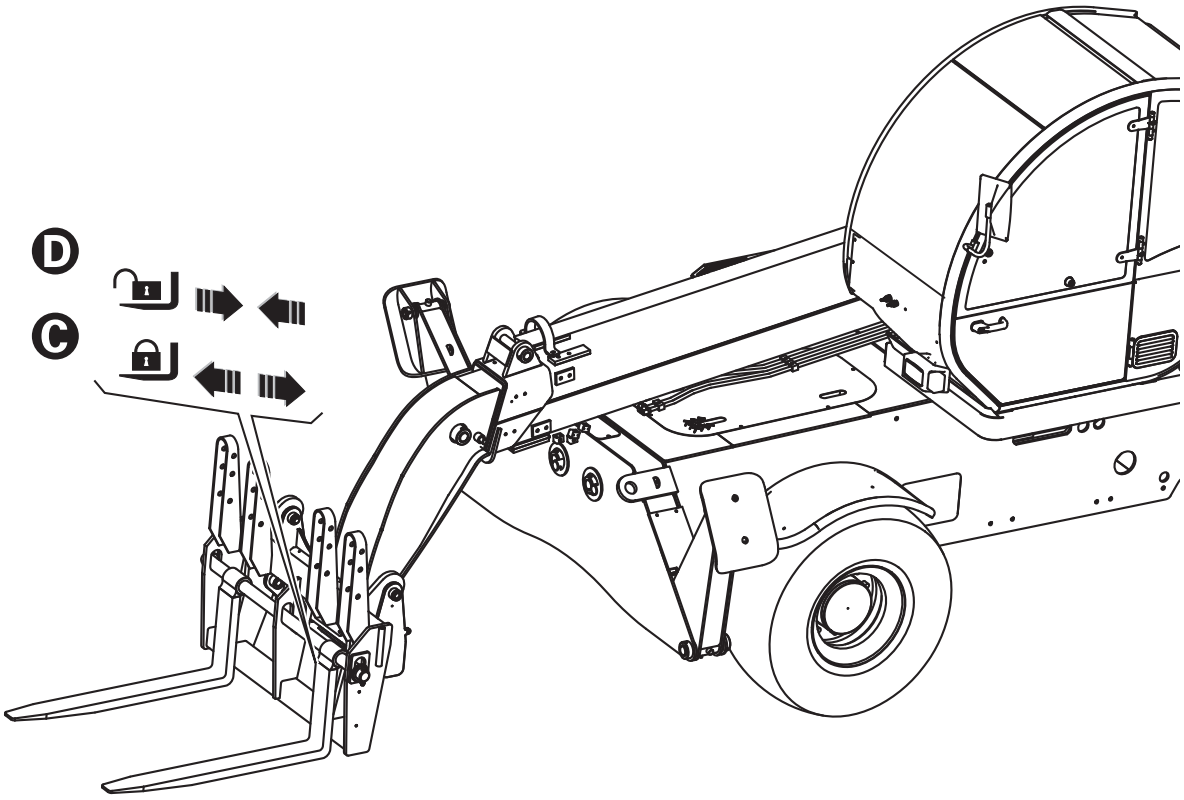
DANGER

Before operating the boom, make sure that nobody is within the working range of the machine.

To lock the attachments:

- Set the control lever to central position and press switch **4**.
- Press button **3** to select the attachment locking function and hold it pressed until the end of the motion.
- Smoothly shift the lever to position **C** to lock the attachment; shift the lever to position **D** to unlock the attachment.





Controls And Instruments

TURRET ROTATION

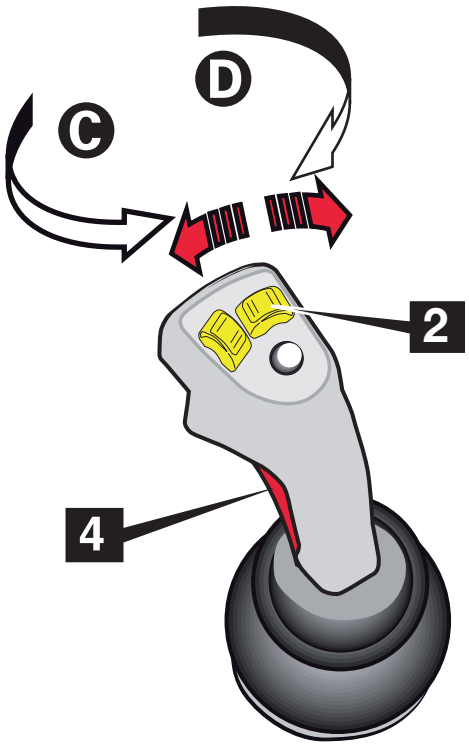
Turret Rotation Control

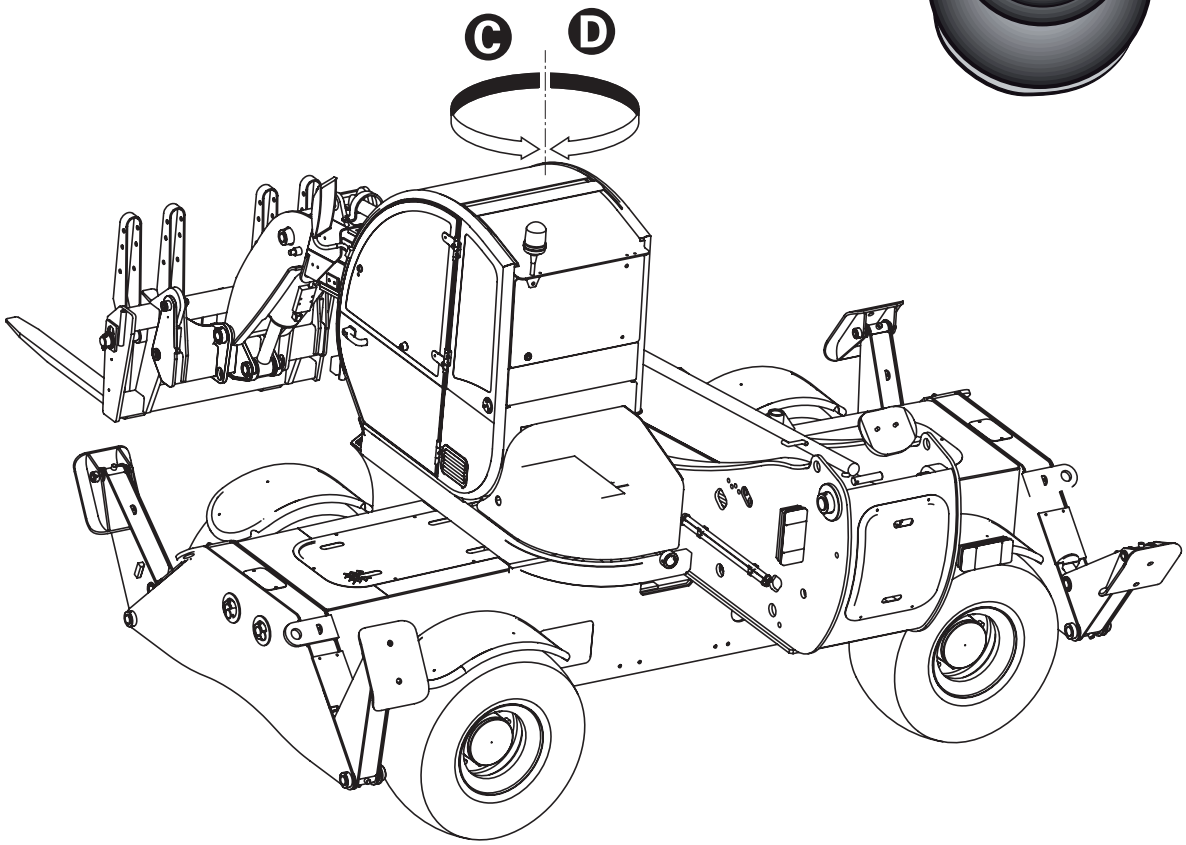
NOTICE

Before operating the turret rotation control, check that the locking pin has been removed.

To rotate the turntable:

- Set the control lever to central position and press switch **4**.
- Move the roller **2** to **D** to rotate the turret clockwise, without shifting the joystick; move the roller to **C** to rotate the turret counter-clockwise, without shifting the joystick.

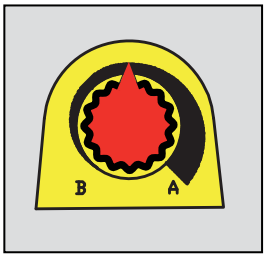




Controls And Instruments

18 _ Turret Rotation Speed Potentiometer

By turning the potentiometer clockwise, the turret rotation speed is increased.



51_ Turret Locking Pin

This manual device is placed at the back of the cabin.

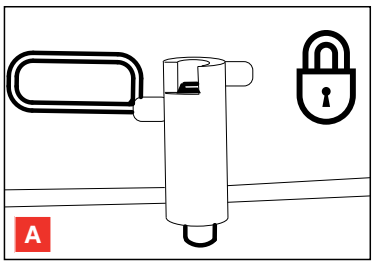
To lock/unlock the turret rotation:

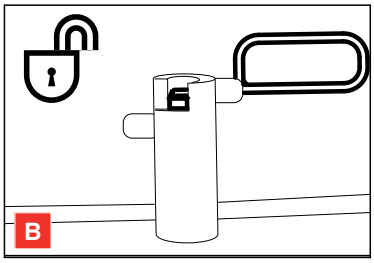
Rotation locking

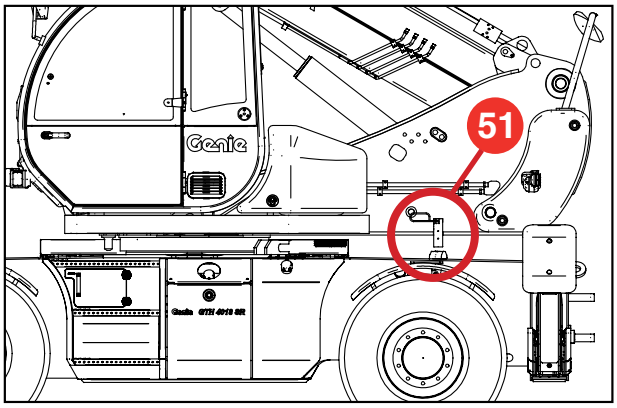
- Rotate the turret until the writing "TURRET ALIGNED" appears on the 8th row of the LMI display
- Switch down the engine, engage the parking brake and exit from the cabin.
- Set the device in position **A** to lock the turret.

Rotation unlocking

- Set the device in position **B** to lock the turret.







Controls And Instruments

■ *33_* Left Joystick *(OPTIONAL):*

An optional left joystick **19** can be installed on a rotating arm which can moved up to enter or leave the control place.
At the front of the joystick, there is the enabling function switch **4** which must be held pressed down until the manoeuvre has been completed. If this button is not pressed, shifting the joystick to any direction won't activate any function.

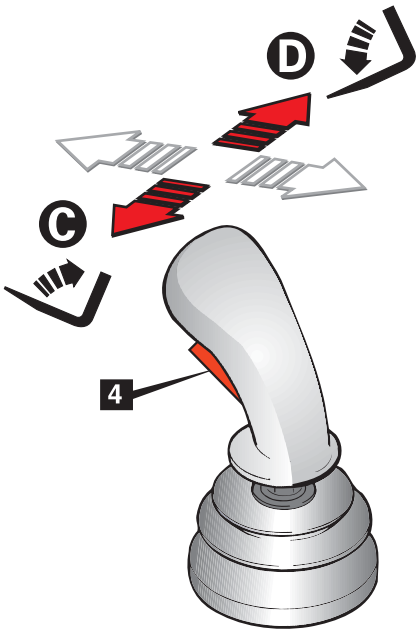
Once the enabling function switch **4** has been pressed, you can use the joystick to activate the following functions:

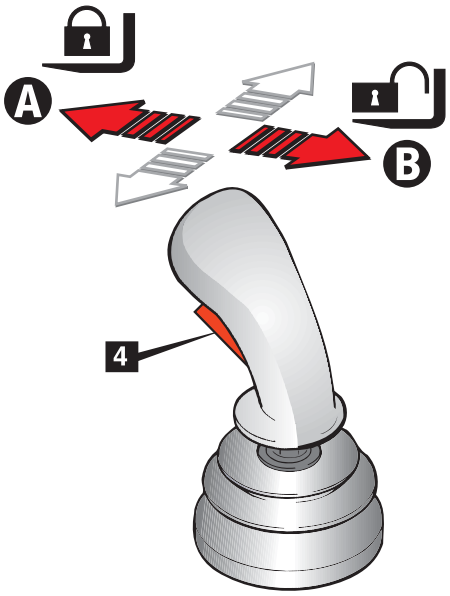
- **Attachment frame forward/back pitching**
  To activate the function, smoothly shift the lever to position D to pitch the holding plate forward; shift the lever to position C to pitch the plate back.

- **Attachment coupling/release**
  To activate the function, smoothly shift the lever to position **A** to lock the attachment; shift the lever to position **B** to unlock the attachment.

If, during operation, switch 4 ***is released for more than 0.5 seconds, the movement stops.***
To restart the movement, re-select the function.

Seize the control lever correctly and move it gently.
The motion speed of the actuators depends on the lever position: a small motion results in a slow motion of the actuators; vice versa, a full range motion of the lever corresponds to the max. speed of the actuator.





Controls And Instruments

Outriggers movements (ref. 19)

DANGER

Before lowering the outriggers, make sure that nobody is within the working range of the machine.

No outriggers movements enabled if the boom is lifted over a tilt angle of 20°

To operate the outriggers:

Front-Left outrigger

- Press button **A** and hold it down to enable the movements:
  select **X** to lower the outrigger
  select **Y** to raise the outrigger

Front-Right outrigger

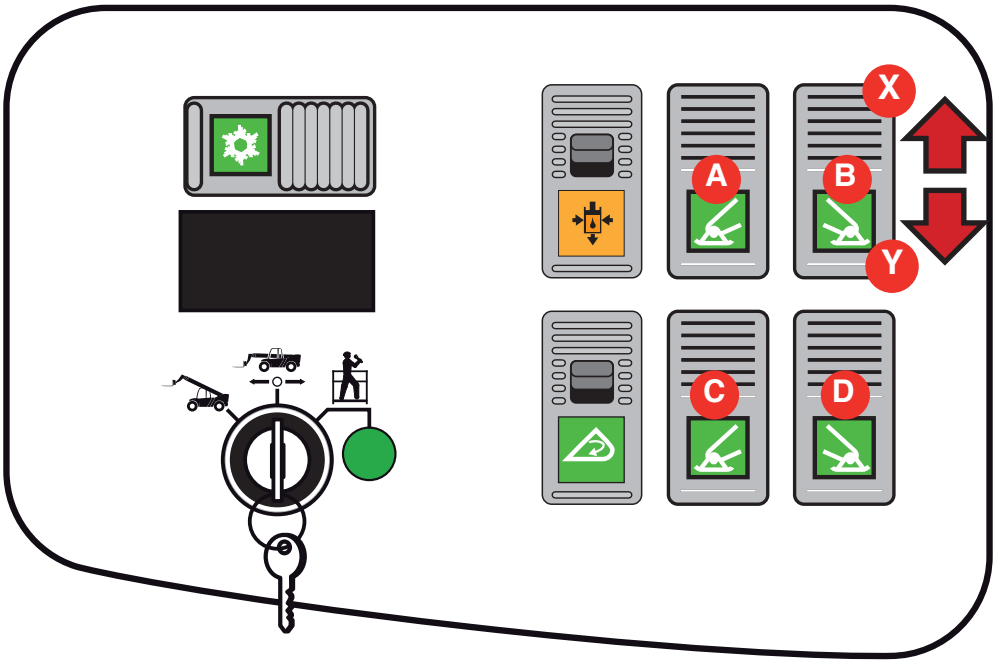
- Press button **B** and hold it down to enable the movements:
  select **X** to lower the outrigger
  select **Y** to raise the outrigger

Rear-Left outrigger

- Press button **C** and hold it down to enable the movements:
  select **X** to lower the outrigger
  select **Y** to raise the outrigger

Rear-Right outrigger

- Press button **D** and hold it down to enable the movements:
  select **X** to lower the outrigger
  select **Y** to raise the outrigger



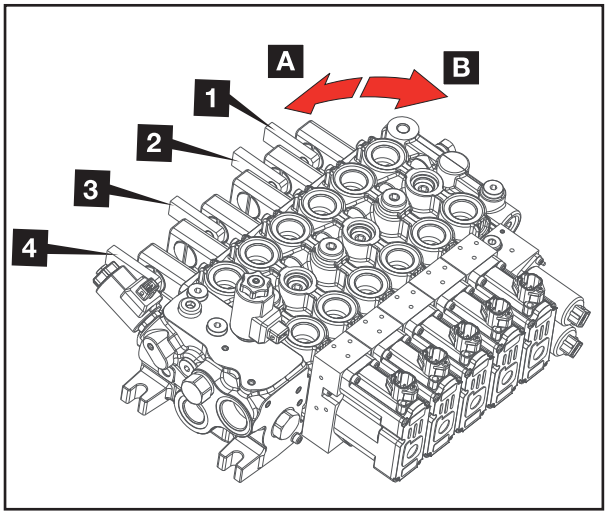
Controls And Instruments

MANUAL CONTROLS

If the control lever is defective or a function cannot be operated, it is possible to use the emergency controls of the main valve.
The main valve has 4 small control levers that operate the following functions:

Lever 1	In position **A**	Outriggers Lowered
	In position **B**	Outriggers Raised
Lever 2	In position **A**	Turret rotated clockwise
	In position **B**	Turret rotated counter-clockwise
Lever 3	In position **A**	Boom telescope out
	In position **B**	Boom telescope in
Lever 4	In position **A**	Boom down
	In position **B**	Boom up

The manual controls can be used only if the machine is running or it is equipped with the emergency pump.



In order to operate the emergency pump with the manual controls, follow the instructions below:

- Press the emergency stop button in the cabin or in the plarform.
- Open the main valve compartment at the back of the cabin to access to the main valve.
- Fit the control levers (supplied) to the elements of the main valve.
- Activate the emergency pump by holding button **Z** pressed down. If the button is released, the pump stops.
- Shift the lever of the main valve to the position corresponding to the movement you wish to obtain.

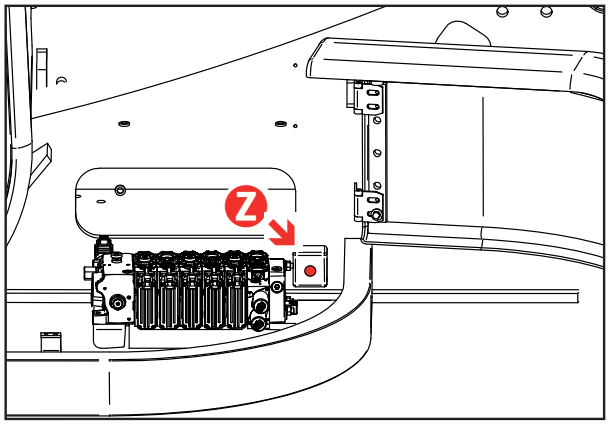
DANGER

- ***When operating the emergency controls in manual mode, the load limiting device is disabled.***

WARNING

For the use of the emergency controls, observe the following sequence:

Lever 3 in B	***Boom fully retracted***
Lever 4 in A	***Boom lowered***



Inspection



Make sure:

☑ You learn and practice the principles of safe machine operation contained in this operator's manual.

1 Avoid hazardous situations.

2 Always perform a pre-operation inspection.

Know and understand the pre-operation inspection before going on to the next section.

3 Always perform function tests prior to use.

4 Inspect the workplace.

5 Only use the machine as it was intended.

Pre-operation Inspection Fundamentals

It is the responsibility of the operator to perform a pre-operation inspection and routine maintenance.

The pre-operation inspection is a visual inspection performed by the operator prior to each work shift. The inspection is designed to discover if anything is apparently wrong with a machine before the operator performs the function tests.

The pre-operation inspection also serves to determine if routine maintenance procedures are required. Only routine maintenance items specified in this manual may be performed by the operator.

Refer to the list on the next page and check each of the items.

If damage or any unauthorized variation from factory delivered condition is discovered, the machine must be tagged and removed from service.

Repairs to the machine may only be made by a qualified service technician, according to the manufacturer's specifications. After repairs are completed, the operator must perform a pre-operation inspection again before going on to the function tests.

Scheduled maintenance inspections shall be performed by qualified service technicians, according to the manufacturer's specifications.

Inspection

PRE-OPERATION INSPECTION

- Make sure the operator's manual is intact, legible and placed inside the machine.
- Make sure all decals are present and legible. See "**Labels and plates applied on the machine**" chapter.
- Check for engine oil leaks and proper oil level. Top up if necessary. See "**Maintenance**" chapter.
- Check for axle oil leaks and proper oil level. Top up if necessary. See "**Maintenance**" chapter.
- Check for hydraulic oil leaks and proper oil level. Top up if necessary. See "**Maintenance**" chapter.
- Check for engine coolant leaks and proper coolant level. Add coolant if necessary. See "**Maintenance**" chapter.
- Check for battery fluid leaks and proper fluid level. Add distilled water if necessary. See "**Maintenance**" chapter.

Check the following components or zones for damage, missing or wrongly fitted parts or non-authorised modifications:

- electrical components, wiring and electrical cables
- hydraulic hoses, fittings, cylinders and main valves
- fuel and hydraulic oil tanks
- drive pump and motor and transmission axles
- steering system
- braking system
- boom telescopes sliding pads
- clean glasses, lights and rear view mirrors
- engine and relevant components
- horn
- lights
- machine ignition control
- nuts, bolts and other fasteners

Check the entire machine for:

- cracks on welds or structural components
- dents or damage to the machine

* Make sure that all structural and other critical components are present and the relevant fasteners and pins are fitted and properly tightened.
* After inspection, check that all the compartment covers are in place and latched.

WARNING

If even one single item is damaged or defective, do not start work. Stop the machine and repair the fault.

Checking the tyres

* Check the correct inflation of the tyres; see par. "**Tyres and Wheels**" in the Maintenance section.
* Make sure that the tyre plies are not cut or worn.

WARNING

A tyre burst may result in serious injury; never use the machine if tyres are worn, wrongly inflated or damaged.

NOTICE

If the machine shall be used in a marine or equivalent environment, protect it against salt deposits with an adequate treatment against saltiness to prevent rust formation.

Inspections

FUNCTION TESTS FUNDAMENTALS

Know and understand the function tests before going on to the next section.

The function tests are designed to discover any malfunctions before the machine is put into service. The operator must follow the step-by-step instructions to test all machine functions. A malfunctioning machine must never be used. If malfunctions are discovered, the machine must be tagged and removed from service. Repairs to the machine may only be made by a qualified service technician, according to the manufacturer's specifications. After repairs are completed, the operator must perform a pre-operation inspection and function tests again before putting the machine into service.

Make sure:

☑ You learn and practice the principles of safe machine operation contained in this operator's manual.

1 Avoid hazardous situations.

2 Always perform a pre-operation inspection.

3 Always perform function tests prior to use.

4 Inspect the workplace.

5 Only use the machine as it was intended.

TESTS

1 Select a test area that is firm, level and free of obstruction. Be sure there is no load on the forks or attachment.

2 Enter the operator's compartment and sit on the seat.

3 Fasten the seat belt.

4 Adjust the interior rear view mirror and the exterior mirrors (right hand and rear ones).

5 Be sure the parking brake is on and the transmission control is in neutral.

6 Start the engine. See par. "**Starting the Engine**" in the Operating Instructions section.

Test the Control Levers *(always pressing button 4)*

7 Using the control lever, momentarily raise and lower the boom, tilt the forks up and tilt the forks down.

⊙ Result: All functions should operate smoothly.

8 Using the lever and the yellow button **1**, momentarily extend and retract the boom.

⊙ Result: The function should operate smoothly.

9 Using the lever and the white button **3**, momentarily lock and unlock the attachment.

⊙ Result: The function should operate smoothly.

10 Using the lever and the yellow button **2**, momentarily rotate the turntable.

⊙ Result: The function should operate smoothly.

Test the Steering

11 Push the right side of the steer selector switch to select four-wheel steer.

12 Check the steering operation by turning the steering wheel approximately ¼ turn in each direction.

⊙ Result: The front wheels should turn in the same direction as the steering wheel. The rear wheels should turn in the opposite direction.

13 Straighten the wheels.

14 Push the steer selector switch to the middle position to select two-wheel steer.

15 Check the steering operation by turning the steering wheel approximately ¼ turn in each direction.

⊙ Result: The front wheels should turn in the same direction as the steering wheel. The rear wheels should not turn.

Inspections

16 Straighten the wheels.

17 Push the left side of the steer selector switch to select crab steer.

18 Check the steering operation by turning the steering wheel approximately ¼ turn in each direction.

⊙ Result: The front wheels and rear wheels should turn in the same direction as the steering wheel.

■ Test the Transmission and Brakes

19 Be sure the boom is fully lowered and retracted.

20 Step on the service brake pedal.

21 Move the transmission control lever to forward. Slowly let up on the service brake pedal. As soon as the machine starts to move, push the service brake pedal.

⊙ Result: The machine should move forward, then come to an abrupt stop.

22 Move the transmission control lever to reverse. Slowly let up on the service brake pedal. As soon as the machine starts to move, push the service brake pedal.

⊙ Result: The machine should move in reverse, then come to an abrupt stop. The back-up alarm should sound when the transmission control lever is in reverse.

23 Move the transmission control lever to neutral.

24 Pull the parking brake lever upward.

⊙ Result: The parking brake indicator light should come on, indicating the parking brake is on.

25 Move the transmission control lever forward, then in reverse.

⊙ Result: The machine should not move.

26 Push the parking brake lever downward. The parking brake is off when the indicator light is off.

■ Test the Outiriggers

27 Using the buttons **19,** fully lower and raise the outriggers.

⊙ Result: The outriggers should operate moothly.

28 Raise the boom over 2 meters.

⊙ Result: The outriggers should not work.

■ Test the Road Lights

29 Verify that all lights are functional.

Inspections

WORKPLACE INSPECTION

The workplace inspection helps the operator determine if the workplace is suitable for safe machine operation. It should be performed by the operator prior to moving the machine to the workplace.

Make sure:

☑ You learn and practice the principles of safe machine operation contained in this operator's manual.

1 Avoid hazardous situations.

2 Always perform a pre-operation inspection.

3 Always perform function tests prior to use.

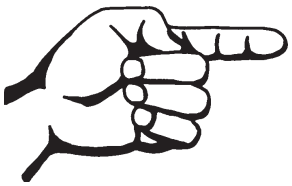
4 Inspect the workplace.

5 Only use the machine as it was intended.

It is the operator's responsibility to read and remember the workplace hazards, then watch for and avoid them while moving, setting up and operating the machine

Be aware of and avoid the following hazardous situations:

- drop-offs or holes
- bumps, floor obstructions or debris
- sloped surfaces
- unstable or slippery surfaces
- overhead obstructions and high voltage conductors
- hazardous locations
- inadequate surface support to withstand all load forces imposed by the machine
- wind and weather conditions
- the presence of unauthorized personnel
- other possible unsafe conditions



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Operating Instructions

This chapter describes some techniques and provides instructions for a safe use of the machine fitted with standard forks. Before using different attachments, thoroughly read the chapter "Optional attachments".

WARNING

Before using the machine, inspect the job site and check for possible hazardous conditions. Make sure that there are no holes, moving banks or debris that may cause you to lose the control of the machine.

DANGER

Pay the greatest attention when working close to electric lines. Check their position and ensure that no part of the machine operates at less than 6 meters from the power lines.

Make sure:

☑ You learn and practice the principles of safe machine operation contained in this operator's manual.

1 Avoid hazardous situations.

2 Always perform a pre-operation inspection.

3 Always perform function tests prior to use.

4 Inspect the workplace.

5 Only use the machine as it was intended.

WARNING

For a safe use of the machine, always check the weight of the loads going to be handled.

Operating Instructions

■ ENTERING THE MACHINE

■ ENTERING THE CAB

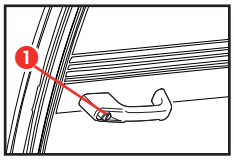
CAUTION

Always make sure that your hands and shoe soles are clean and dry before getting into the driving cab. Always face the machine when entering and leaving it and hold to the suitable handles.

The handler cab is equipped with an access door on the left-hand side.

Door opening from outside:

- Insert the key and release lock **1**.
- Press the pushbutton **1** and open the door.

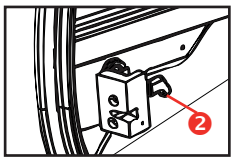


Door closing from inside:

Pull the door with force: it locks automatically.

Door opening from inside:

- Lower lever **2** and release the lock to open the door completely.
- Rotate handle **3** to open the upper section of the door and lock it against the special catch.

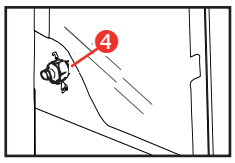


CAUTION

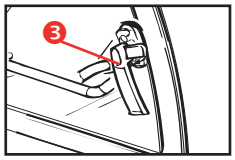
The upper section of the door must be secured to the rear part of the driving cab or latched to the lower section of the same door.

To unlock the door latched in open position:

- Press button **4** to unlock the door from the catch

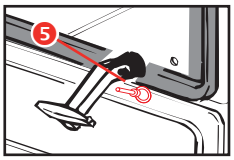


- Once released, re-close the upper section of the door by means of handle **3**.



■ Leaving the cab in an emergency

In an emergency, use the rear window of the cab as safety exit-way.
This window has special locking handles with plastic pins **5** easy to pull out when you need to fully open the glass.



Operating Instructions

■ ADJUSTING THE SEAT

Position the seat so you can comfotarbly reach all the controls. The handler seat is fitted with devices which let you adjust the seat springing, height and distance from the controls, the backrest angle and the armrest height.

- **Adjusting the seat distance from the controls**
  To slide the seat forward or back, rotate lever **A** and push the seat to the desired direction. Then release the bar and make sure that the seat locks in position.

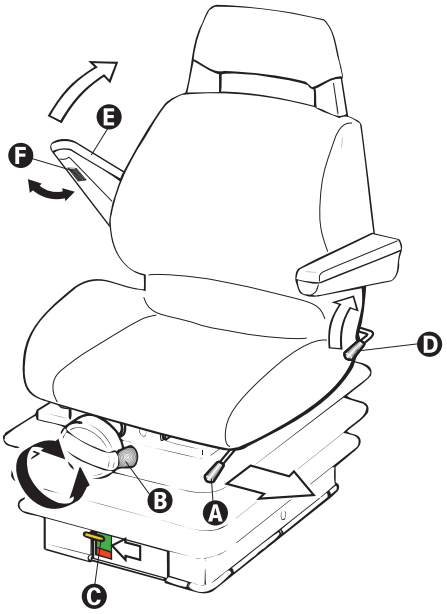
- **Adjusting seat height and springing**
  Free the lever of knob **B** and turn clockwise or counter-clockwise until reaching the desired springing. Once you'are correctly seated in the seat check that the yellow indicator **C** is in the green field.

- **Adjusting the backrest angle**
  Operate lever **D**, press your back firmly against the backrest and put the backrest at the angle you wish, then release the lever.

- **Adjusting the armrest height**
  Raise armrest **E** and turn wheel **F** to put the armrest at the height you want.

⚠CAUTION

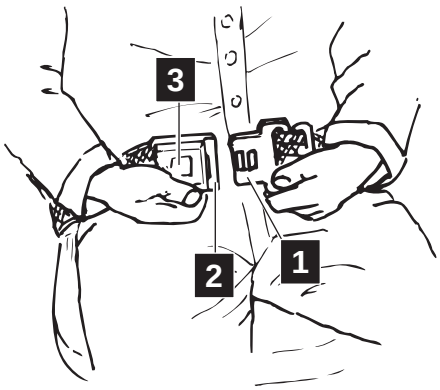
- ***The seat is for one person only.***
- ***Don't adjust the seat when the machine is moving.***



■ FASTENING THE SEAT BELTS

Sit correctly in the driving seat; then:

- The safety belts are equipped with reel retractor. To fasten the belt, pull tab **1** and push it into buckle **2**.
- To release the belt, push button **3** and remove the tab from the buckle.
- Make sure that the buckle is correctly located at the hip point and not on the stomach.
- Operate the end adjusters to reach the length you wish and make sure the buckle is always in the middle.



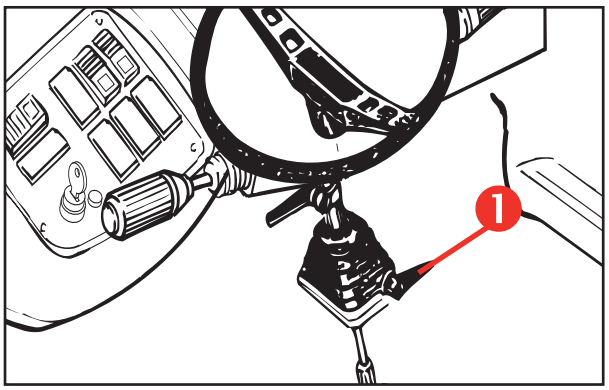
Operating Instructions

ADJUSTING THE STEERING COLUMN

Both steering column and dashboard can be set to a different angle.
To adjust the steering wheel angle, unlock lever **1** and pull or push the steering wheel to the required position, then re-lock lever **1**.

WARNING

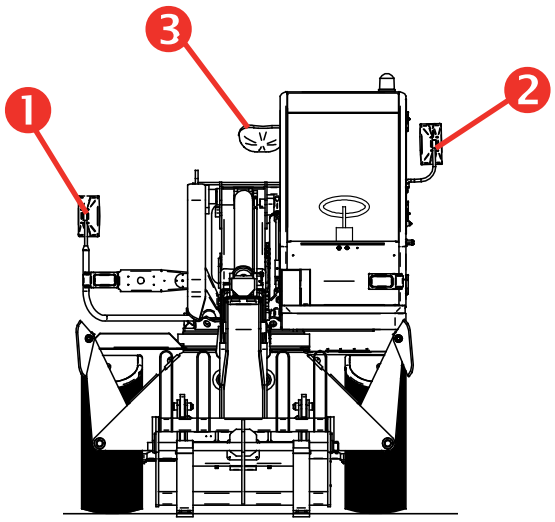
Before driving the machine, ensure the steering wheel is perfectly clamped.



ADJUSTING THE REAR VIEW MIRRORS

The machine is fitted with three rear view mirrors:

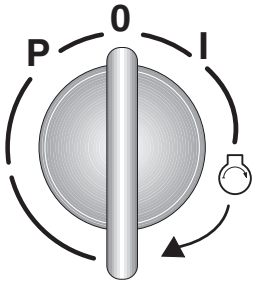
- Rear view mirror **1** is located on a special supporting bracket in advanced position and allows checking the area behind the machine, on the right-hand side. To adjust its position, manually rotate the joint it is fitted with.
- Rear view mirror **2** is placed on the left upper post of the windscreen and allows checking the area behind the machine, on the left-hand side. To adjust its position, manually rotate the joint it is fitted with.
- Rear view mirror **3** is placed on a special bracket located at the back of the boom and allows checking the area behind the machine as well as the rear right stabilizer. To adjust its position, manually rotate the joint it is fitted with.



Operating Instructions

STARTING THE ENGINE

- Set the forward/back speed lever to neutral position.
- To start the engine, rotate the ignition switch to position, and release when the engine starts. If the engine does not start within 20 seconds, release the key and wait at least 2 minutes before attempting again.
- After the engine starting, slow down the rpm and wait some seconds before engaging a gear; this allows for a gradual warm up of the engine oil and a better lubrication.
- In case of engine jump-starting, remove the connecting cables (see following chapter).



NOTICE

If the light indicators do not switch off/on when engine is running, immediately stop the machine and find and rectify the fault.

WARNING

Once it has been started, the engine continues to run even if you leave the driving place. DO NOT LEAVE THE DRIVING PLACE BEFORE HAVING SHUT THE ENGINE DOWN, LOWERED THE BOOM TO THE GROUND, TURNED THE SPEED SWITCH TO THE NEUTRAL POSITION AND ENGAGED THE PARKING BRAKE.



Engine can not be started if the speed switch is not in the neutral position.

JUMP-STARTING THE ENGINE

NOTICE

Do not start the engine using a quick charge booster to avoid any damage to the electronic boards.

DANGER

When jump-starting the engine through the battery of another machine, make sure that the two vehicles cannot collide to prevent formation of sparks. Batteries give off a flammable gas and sparks may burn it and cause an explosion

Do not smoke when checking the electrolyte level.

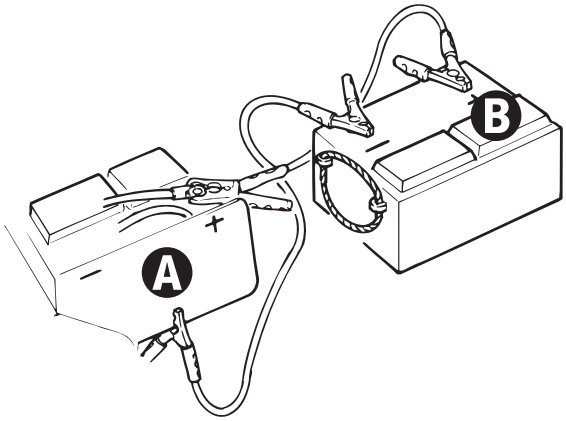
Keep any metal object like buckles, watch straps, etc. clear of the battery positive (+) terminal. These elements can short between the terminal and nearby metal work and the operator can get burned.

The booster supply must have the same rated voltage and output of the battery installed on the handler.

To jump-start the engine:

- Turn any users off by the special control levers.
- Put the gear lever to neutral and engage the parking brake.
- Ensure the machine battery **A** is connected to the frame earth, the terminals are well tightened and the electrolyte level is regular.
- Connect the two batteries as shown in the figure. Connect first the positive terminals of the two batteries, then the negative terminal of the booster supply **B** to the machine frame earth.
- If the booster supply is installed on a second vehicle, make sure that the latter does not touch the handler. **To avoid damage to the electronic instruments of the machine, the engine of the machine where the booster supply is installed, must be stopped.**

Operating Instructions



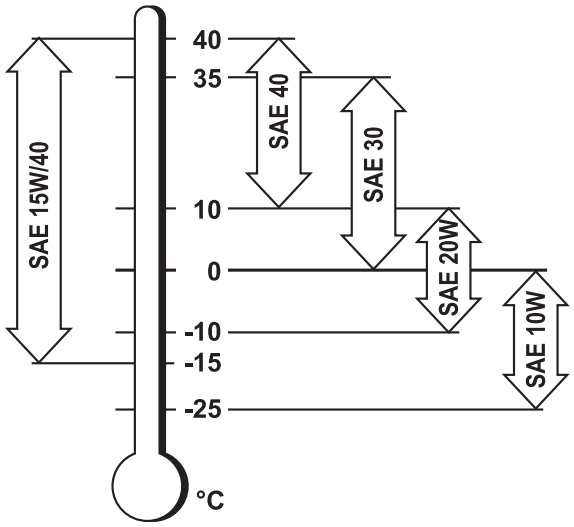
- Turn the ignition key and start the handler.
- Disconnect the cables. Remove first the negative terminal from the frame earth, then from the booster supply. Disconnect the positive terminal from the machine battery, then from the booster supply.

DANGER

Use only a 12V battery; other devices like battery chargers, etc. may cause an explosion of the battery or result in damage to the electrical system.

■ LOW TEMPERATURE STARTING

In case of cold starting, use an oil with a SAE viscosity adequate to the ambient temperature.
Please refer to the engine use and maintenance manual.
The machine is supplied with oil SAE 15W/40.



To start the engine from cold, proceed as follows:

- Set the forward/back speed lever to neutral position.
- Turn the ignition switch to the glow plugs preheating position: the relevant warning light **46** goes on. Step down on the gas pedal and start the engine by turning the ignition switch. Release the switch as soon as the engine fires.
- Let the engine run at idle for a few seconds before putting a gear; this allows for a gradual warm up of the engine oil and a better lubrication.

Operating Instructions

STARTING THE MACHINE

When the engine reaches the running temperature, ensure all parts are in transfer position and the gearbox lever is in neutral. Then, proceed as follows:

- Select the required steering mode.
- Select the required gear (forward or reverse).
- Release the parking brake.
- Slowly step on the gas pedal to start moving off.

WARNING

Do not operate the forward/reverse gear lever when the machine is running. The machine would reverse the running direction abruptly and you could seriously be injured.

STOPPING AND PARKING THE MACHINE

When possible, stop the machine on a dry, level and solid ground. Then:

- Bring the machine to a smooth stop by easing up the gas pedal and stepping down on the brake pedal.
- Set the forward/back speed lever to neutral position.
- Engage the parking brake and ensure its indicator light switches on.
- Release the service brake pedal.
- Rest the attachment coupled to the boom flat on the ground.
- Rotate the ignition key to "**0**" and remove the key.
- Leave the driving cab and lock the cab door.

WARNING

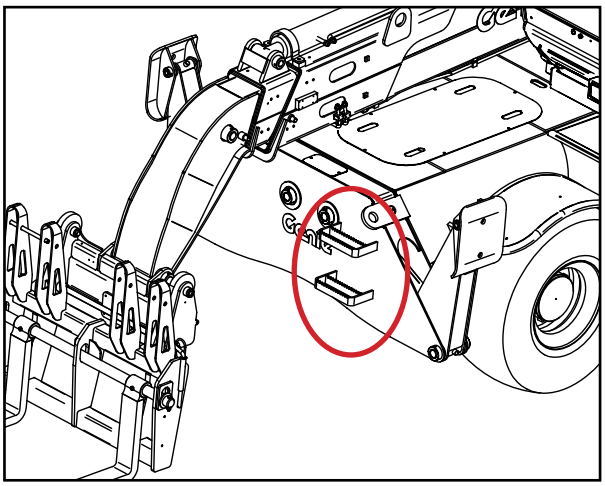
Always face the machine when getting off the driving cab; make sure that your hands and shoe soles are clean and dry, and hold to the handholds to prevent falls or slips.

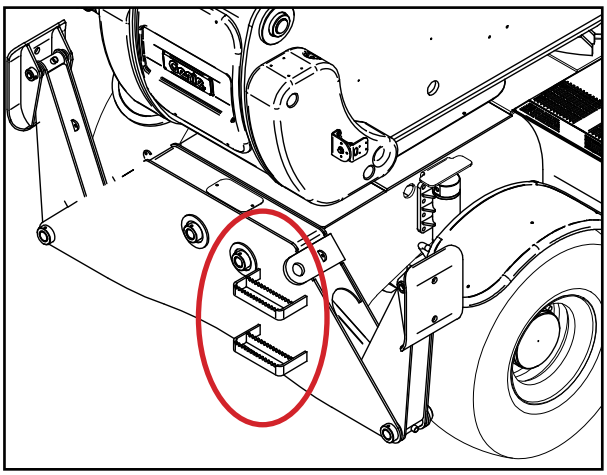
WARNING

Always engage the parking brake after stopping the machine to prevent possible accidental motions of the vehicle.

OPERATOR DESCENT WITH 90° TURRET

If the turret gets stuck at 90° rotation, the operator can easly descent from the machine through the two dedicated iron steps located at the two top ends of the chassis, as shown in the following figures.





Operating Instructions

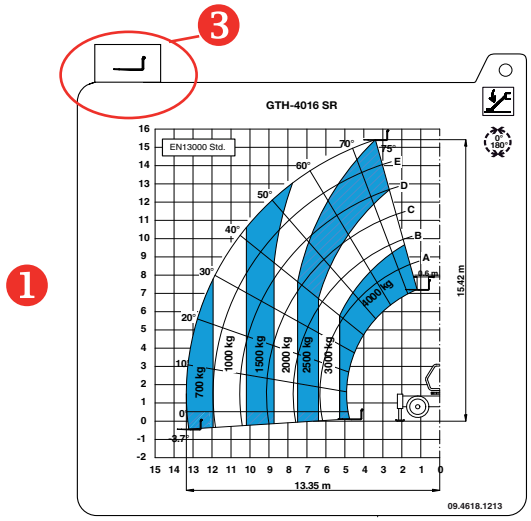
■ USING THE LOAD CHARTS

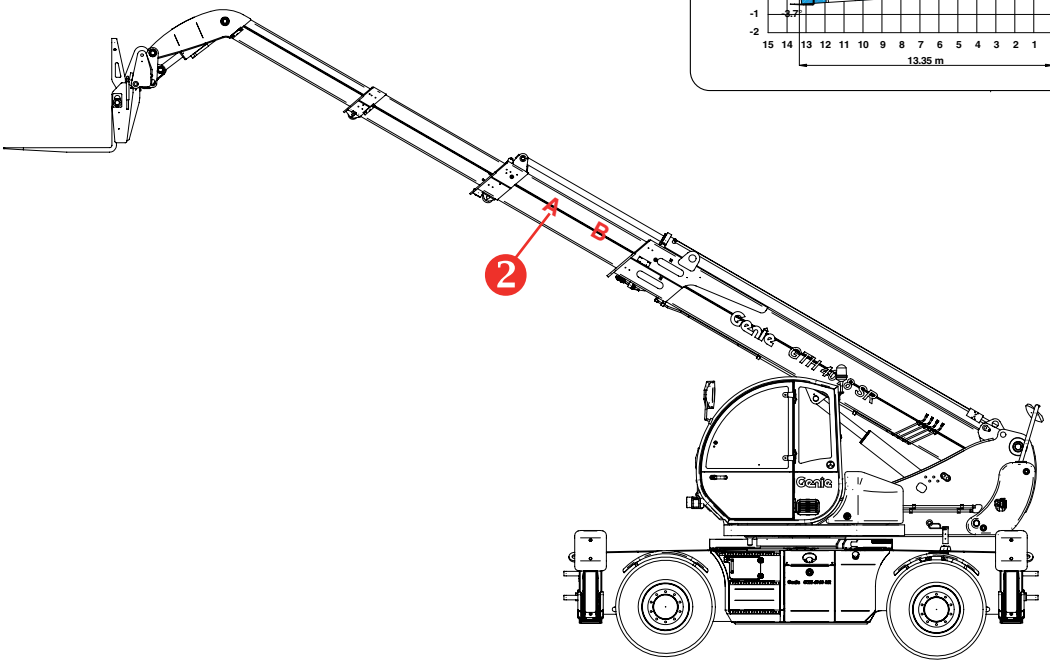
The charts **1** indicating the maximum permissible load in relation to the boom extension and the type of attachment used are installed on the cab. The different charts depending on the use or not of the outriggers and on the position of the turret. To operate under safe conditions, always refer to these charts.
The extension level of the boom can be checked with the help of the letters (**A**, **B**, **C**, **D**, **E**) painted on the same boom (pos.**2**) and compared with the load chart.
The tag **3** located at the top of each load chart, indicates the type of attachment used**.**

The load charts illustrated in this manual are given only as a mere example. To define the payload limits, refer to the load charts applied within the cab of your machine.

WARNING

The load charts applied on the cab refer to a stationary machine standing on a solid and level ground.
Raise the load some centimetres and check its stability before raising it completely.





Operating Instructions

9 _ LOAD MOMENT INDICATOR

At the back of the driving place there is a unit which lets you manage the moment limiting system of the machine.
The collected data, processed in relation to the attachment used, are continuously compared with the data stored in the program memory. The processing of these data results in three different situations which are displayed by the warning lights located at the left side of the display.

1 ***Green LED ON***
Stability condition. The raised load does not exceed 90% of maximum allowed load of the chart in that defined working position.

2 ***Yellow LED ON***
Pre-alarm condition. The raised load exceeds 90% of maximum allowed load, but it is still inferior to it: the boom movements are slow down and the acoustic alarm emits short bips.

3 ***Red LED ON***
Alarm condition. The raised load exceeds the maximum allowed load, the acoustic alarm emits long bips and the machine motions are stopped, but for those allowing to return the load within safety limits.

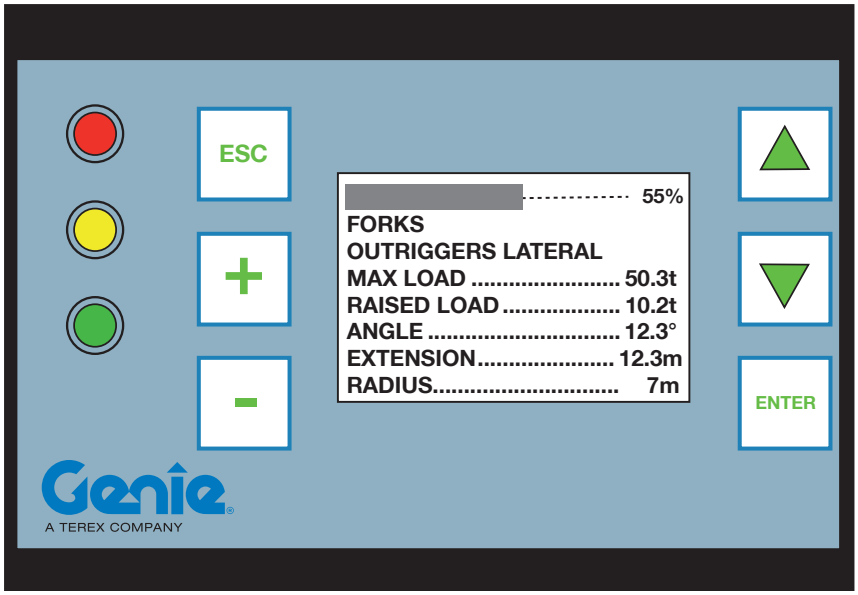
The display of the limiting device is divided into three areas:

LED's area: Three LED's warn of the variation of the working condition:

1 **green LED** - machine stable
2 **yellow LED** - machine in pre-alarm
3 **red LED** - machine in alarm

Control Keys

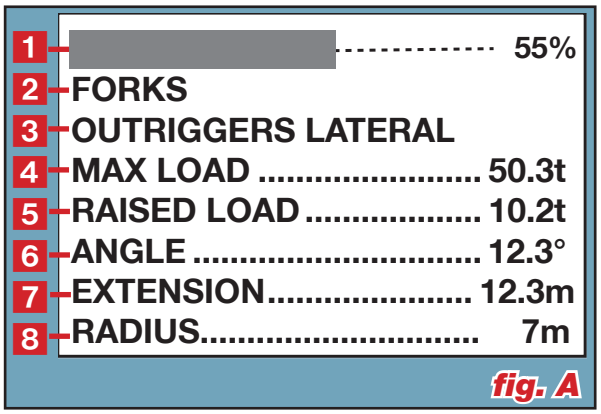
ESC	To go back to the previous screen page
ENTER	To confirm and open the screen page linked
ARROWS	To scroll the lines up or down
PLUS (+)	Additional selection button
MINUS (-)	Additional selection button



Operating Instructions

Display, which is divided into 8 lines_ fig.A

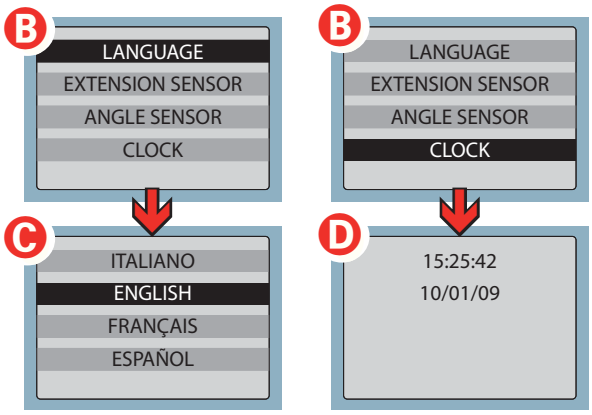
1. Load percentage strip
2. Indicates the attachment used
3. Indicates the operating mode
4. Indicates the max. load that can be raised
5. Indicates the weight raised for the system calibration
6. Indicates the boom angle
7. Indicates the boom extension (it'll be **= 0 meters** once the boom is fully retracted)
8. Indicates the distance of the load from the slewring axis and, in case of necessity, it displays the related warning message



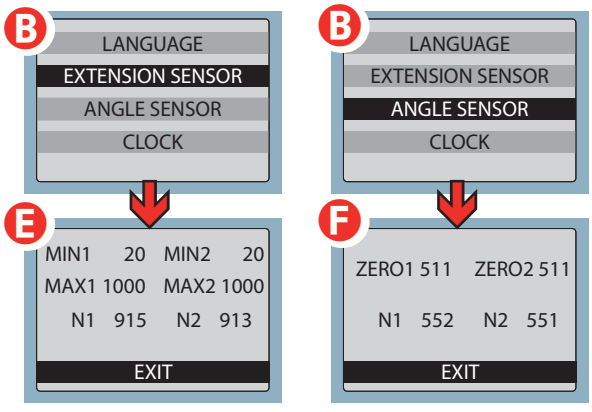
When using an attachment other than those stated, but supplied by TEREXLIFT, select the FORK in line 2.

Operation

- At the machine starting, the overload warning system runs an automatic check and the software datas are displayed.
- Within 3/4 seconds, the list of attachments allowed is displayed: using the arrows, the operator has to select the right attchment and then press ***ENTER*** to confirm.
- Once the attachment has been selected, the display shows the *Standard Screen Page* (***fig.A***).
- From this screen page, pushing ***PLUS (+)*** for some seconds, the operator can open the ***UPPER LEVEL (B)*** where other four sub-menus are displayed: one of these, ***LANGUAGE (C)*** can be modified



while the other three, ***CLOCK (D)***, ***EXTENTION SENSOR (E)*** and ***ANGLE SENSOR (F)***, can only be consulted.



Operating Instructions

- Pressing ***ESC***, go back to the *Standard Screen Page.*
- Press the two buttons ***PLUS (+)*** and ***MINUS (-)*** simultaneously to access to the *Diagnostic Screen Pages.* These pages can only be consulted. Use the ***ARROWS*** to pass from one page to another.

DANGER

Before using the machine, make sure that the green LED is ON, and that the operating mode shown in line 3 and the attachment shown in line 2 are those actually used.
The moment limiter must not be used to check the load to be handled: it has only been designed to alert the operator to instable conditions of the machine during lifting.
Such instable conditions may also be caused by an abrupt operation of the control lever during the load handling.

HANDLING LOADS

Adjusting the forks

With FEM forks

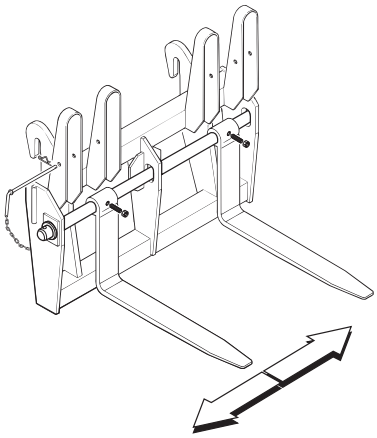
Forks shall be spaced to suit the load going to be handled. For this purpose:

- Lift the clamping lever of the forks.
- Slide the forks to the desired position, then re-lock the lever.

With floating forks

In the case of floating forks:

- Loosen the nut of the locking screws.
- Raise the forks and slide them on the pivot until correct spacing.
- Lock the screws re-tightening the nut.



WARNING

- ***The centre of gravity of the load must always be halfway between the forks.***
- ***Ensure you exactly know the weight of the load before handling it.***
- ***When extending the boom, do not exceed the payload limit.***
- ***Refer to the payload limits given in the load chart applied on the cab windscreen or in the quick user's guide.***
- ***Space the forks as wide as possible to suit the load being handled.***

Operating Instructions

WORKING PHASES

When forks are correctly spaced, the handler is ready to use.
Work can be subdivided into three different phases: loading, transfer and unloading.

Loading phase

- Approach the load to the handled perpendicularly and check that the machine is level on the inclinometer.
- Insert the forks under the load and raise the load some centimetres.
- Pitch the forks back to retract the load.

Transfer phase

- Do not start or brake abruptly.
- Drive to the unloading point cautiously and keep the load 20÷30 cm from the ground.
- Suit the machine speed to the ground conditions to avoid dangerous jumps, side skids of the vehicle and possible load falls.
- When driving on slopes or ramps, hold the load uphill.

DANGER

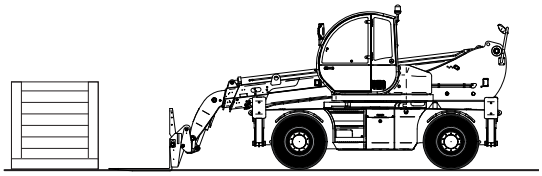
Do not drive on slopes sideways; this wrong manoeuvre is one of the main reasons for accidents due to vehicle overturning.

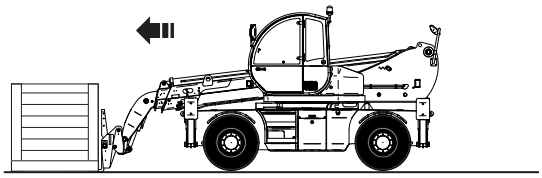
Unloading phase

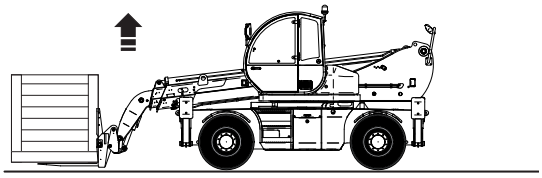
- Drive to the unloading point with straight wheels and bring the machine to a smooth stop leaving enough space to operate the boom.
- Put the parking brake and set the transmission to neutral.
- Position the load some centimetres above the desired position and set the forks level.
- Lower the load and make sure it is level.
- Carefully withdraw the forks by operating the boom retraction control and, if necessary, raise or lower the boom as forks come out.
- When the forks are clear of the load, set them to transfer position.
- Release the parking brake and start a new working cycle.

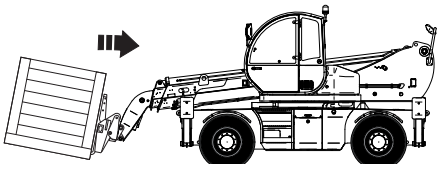
WARNING

Do not move off when the load is raised 20÷30 cm above the ground. Risk of machine overturning or load fall.









Operating Instructions

CHANGING THE ATTACHMENT

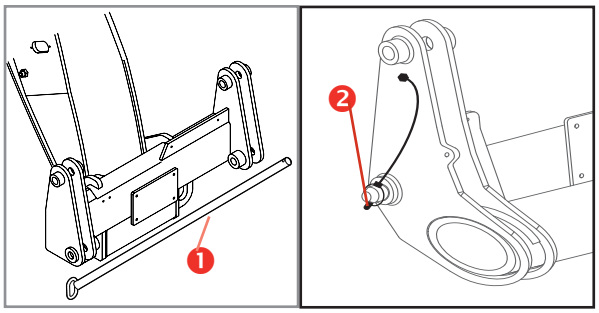
CAUTION

Use only attachments directly manufactured or recommended by Terexlift and detailed in the "Optional Attachments" section.

Version with MECHANICAL LOCKING

To change an attachment, operate as follows:

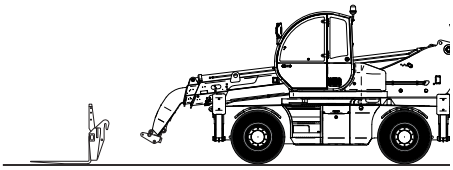
- Drive to the place where you will release the mounted attachment (when possible, a solid and sheltered site).
- Disconnect the quick connectors of the attachment (if any).
- Pull out pin **1** locking the attachment after removing the safety split-pin **2** at its end.

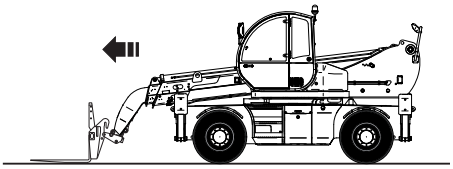


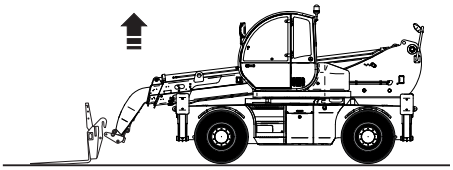
- Rest the attachment flat on the ground.
- Pitch the attachment holding frame forward and lower the boom to release the attachment upper lock.
- Move back with the machine and drive to the new attachment to be coupled.
- Hold the frame pitched forward and hook the upper lock of the new attachment.
- Retract and raise the attachment some centimetres. It will centre automatically on the quick coupling frame.
- Refit pin **1** fixing it with its safety split-pin **2**.
- Re-couple the connectors of the attachment (if any).

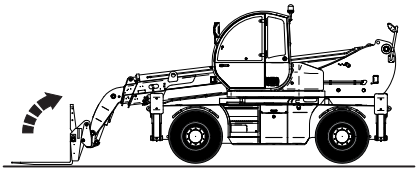
WARNING

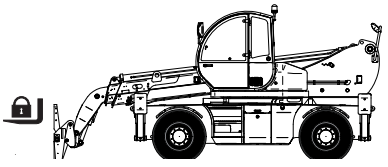
After substitution, visually check the attachment is correctly coupled to the boom, before operating the machine. A wrongly coupled attachment may result in damage to persons or things.









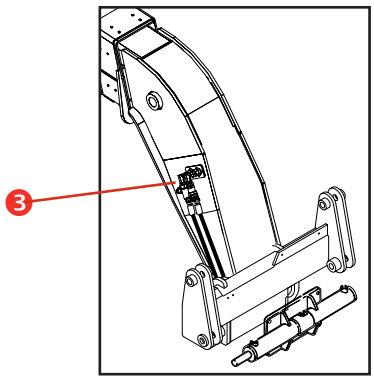


Operating Instructions

Version with HYDRAULIC LOCKING *(OPTIONAL)*

To change an attachment, operate as follows:

- Drive to the place where you will release the mounted attachment (when possible, a solid and sheltered site).
- Disconnect the quick connectors of the attachment (if any), and connect the hydraulic locking pipes of the attachments to couplings **3**.



- Rest the attachment flat on the ground.
- Remove the safety pin **2** placed at its end.
- Free the attachment operating the control of the attachment locking/unlocking cylinder
- Pitch the attachment holding frame forward and lower the boom to release the attachment upper lock.
- Move back with the machine and drive to the new attachment to be coupled.
- Hold the frame pitched forward and hook the upper lock of the new attachment.
- Retract and raise the attachment some centimetres. It will centre automatically on the quick coupling frame.
- Operate the attachment locking lever (optional) and secure the attachment in place with safety pin **2** previously removed.
- Re-couple the connectors of the attachment (if any).

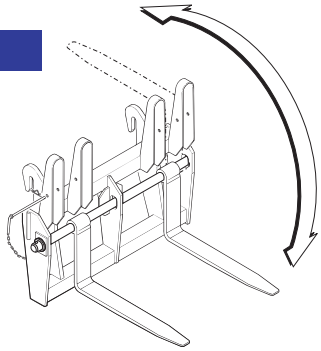
■ ROAD OR SITE TRANSFER

When travelling on public roads, strictly obey the local or national road traffic regulations.
Besides, take into account the following general precautions:

- Align the rear wheels.
- Sway the machine.
- Cover the teeth of the conventional forks with the special guard; or withdraw the floating forks.

NOTICE

With the floating forks pitched back, do not move the fork pitching cylinder as the machine could suffer from damage.



- Retract boom and attachment to transfer position.
- Set the **Road/Jobsite/Platform** to "***ROAD***".
- Make sure that lights, horn and turn signals are in working order.
- Engage the gear.
- The transfer speed of the vehicle will depend on the engine rpm and the position of the control lever.

NOTICE

Public road circulation is allowed only for transferring an unloaded machine.
Do not use the machine to tow trailers.

Operating Instructions

USE OF THE MAN-PLATFORM

For the use of the man-platform, proceed as follows:

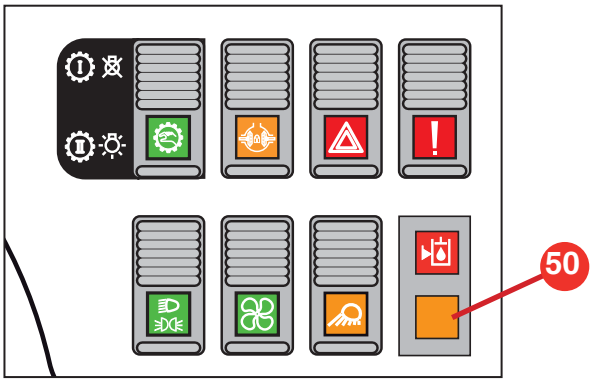
1. Couple the man-platform to the attachment holding frame.
2. Completely extend the four outriggers checking, throught inclinometer **10** in the cabin, that the machine is perfectly levelled.
3. Level the man-platform floor.
4. Turn the ignition switch to **P** position.
5. Turn the cab/road/platform switch to the "**Platform**" position (the green LED comes on).

The platform floor cannot be levelled once the controls have been switched from the driving cabin to the platform. Before starting using the platform, make sure the floor is level.

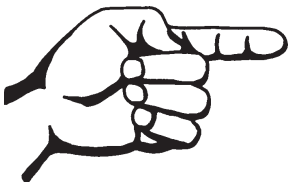
6. Remove the key from the cab/road/platform switch to use it for the platform controls.
7. Remove the turret locking pin placed at the back of the cabin.
8. Open the protection cover of the power socket on the boom and plug in the platform plug.
9. Enter the man-platform and insert the key previously removed in the controls switch.

WARNING

If the platform controls remain disabled after the key insertion, check the warning light 50: if it is blinking it means the machine is not well leveled.



For the use and maintenance of the man-platform, read the specific manual - code 57.0302.9200.



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Transporting The Machine

■ MOVING A DISABLED MACHINE

Tow the machine only when no alternative is possible, since this operation may result in serious damage to the transmission. When possible, repair the machine on site.
When the machine shall absolutely be towed:

- Disable the parking brake.
- Tow the machine for short distances and at a low speed only (less than 5 km/h).
- Use a rigid drawbar.
- Select the two-wheel steer.
- Set the forward/back speed lever to neutral position.
- Put the gearbox lever to neutral (see below)
- Raise the front wheels of the machine.
- When possible, start the engine and use the hydraulic drive and the braking system.

Parking brakes disable

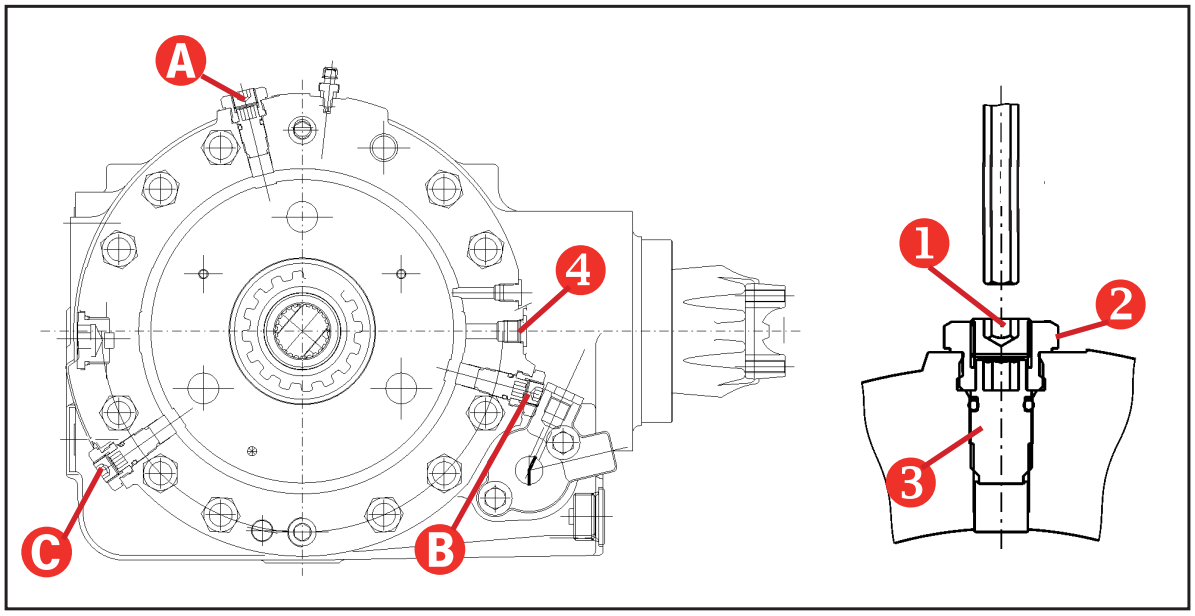
To unlock the negative brake of a faulty machine,

- On both sides remove the lock screws (**1**)
- Screw in the brake release bolts (**3**), 1/2 turn at a time, in sequence (**A**, **B**, **C**) until the torque drops off sharply (4÷5 turns).

Parking brakes enable

To re-activate the negative brake :

- Apply 13 bar pressure into the parking brake port (**4**).
- Remove the lock screws (**1**) and unscrew all the brake release screws (**3**) on both sides until the end of stroke has been reached. Note: do not move the special screws (**2**)
- Release the pressure at the brakes port (**4**).
- Assemble the lock screws (**1**) to the bolts (**2**).
- Lock the screws (**2**) at 30 Nm tightening torque and then lock screws (**1**) at 20 Nm tightening torque on both sides.



Transporting The Machine

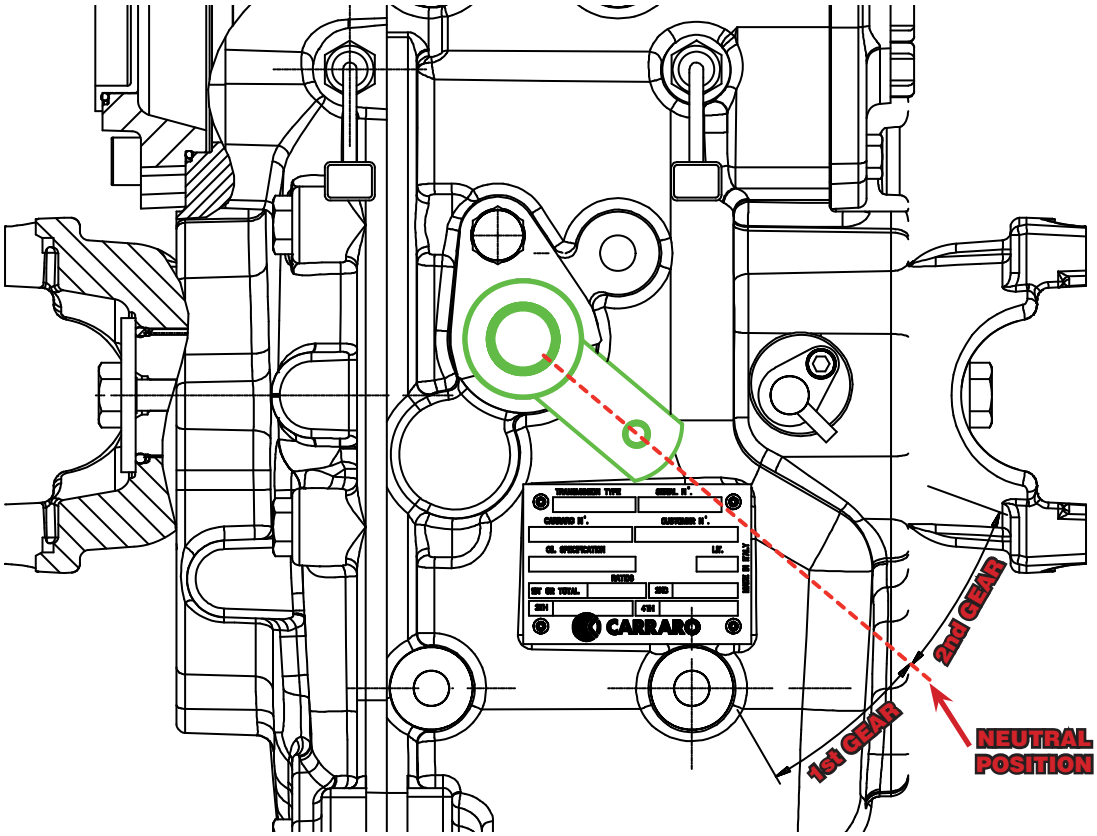
Setting the gear lever in neutral

NOTICE

Do not tow the machine without setting the mechanical gear lever to neutral position.

To set the gear lever to neutral:

- Using an adjustable self-locking pliers, set the dedicated lever in the position showed below

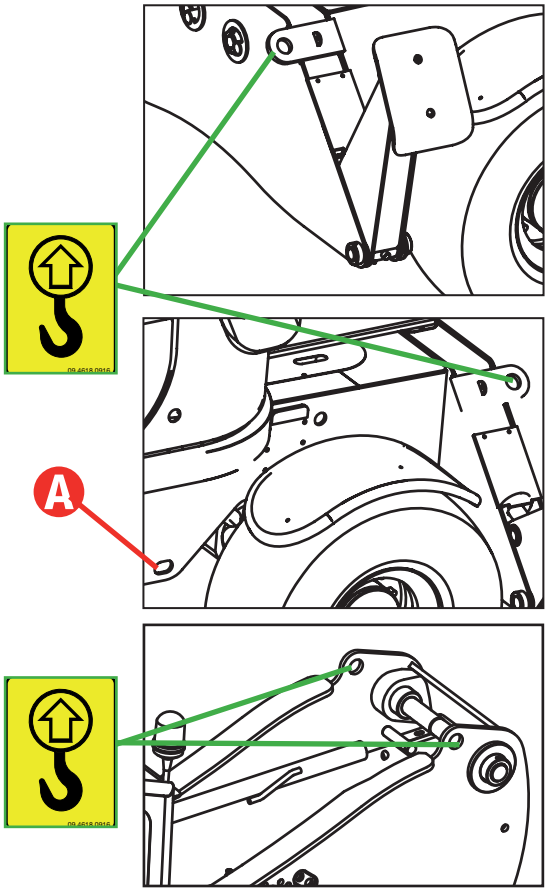


Transporting The Machine

■ LIFTING THE MACHINE

When the machine shall be lifted, use only means having a suitable capacity. The characteristic data are detailed in the relevant chapter of this manual and on the identification plate.

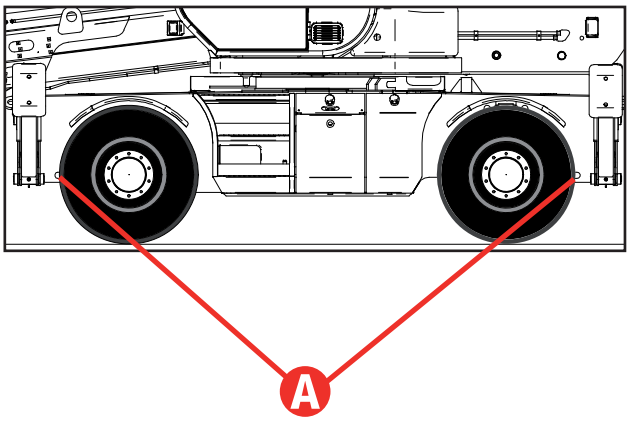
For the machine lifting, anchor the chains to the special lugs on the machine (marked with the decal below).

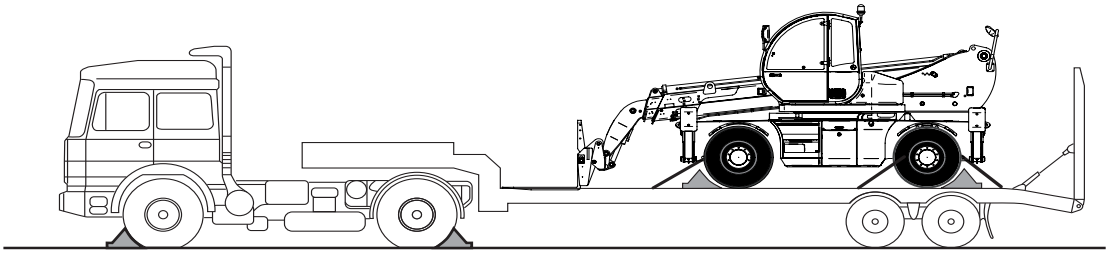


■ TRANSPORTING THE MACHINE ON OTHER VEHICLES

To transport the machine on another vehicle, follow the steps below:

- Ensure ramps are correctly positioned.
- Retract the boom to transfer position.
- Carefully drive the machine onto the transporting vehicle.
- Put the parking brake and rest the attachment flat on the vehicle platform.
- Ensure the overall dimensions do not exceed the allowed limits.
- Shut the engine down and close the driving cab of the machine.
- Secure the machine to the vehicle platform by wheel-chocks.
- Anchor the machine to the transporter's platform by fixing the chains to the special eyebolts **A** on the chassis.





Transporting The Machine

■ PARKING AND STORAGE

■ Short inactivity

Always park the machine in a safe way after a working day, a shift and at night.
Take all precautions to prevent damage to those persons who will approach the machine while stationary:

- Park the machine so that it does not hinder other operations.
- Lower the boom fitted with attachment on the ground.
- Disengage the transmission and put the parking brake.
- Remove the key from the ignition switch and lock the cab door.

⚠ CAUTION

Leaving a battery connected can result in shorts and, as a consequence, in a fire.

■ Machine storage

In case of extended inactivity of the machine, follow the above precautions. Additionally:

- Wash the machine thoroughly. For a better cleaning, remove grills and protection casings.
- Carefully dry all machine parts by blowing some compressed air.
- Lubricate the machine thoroughly.
- Do a walk-around inspection and replace any worn or damaged part.
- Re-paint any worn or damaged part.
- Remove the battery, smear its terminals with vaseline and store it in a dry place. Battery can be used for other purposes. Otherwise, periodically check its charge level.
- Refuel the tank to prevent internal oxidation.
- Store the machine in a sheltered and well-ventilated place.
- Start the engine for about 10 minutes at least once a month.
- When weather is particularly cold, empty the radiator.

NOTICE

Always remember that the ordinary maintenance must be carried out even during the machine inactivity. Pay particular attention to the fluid levels and to those parts subject to ageing. Before re-starting the machine, carry out an extraordinary maintenance and carefully check all mechanical, hydraulic and electrical components.

■ CLEANING AND WASHING THE MACHINE

Clean the machine in accordance with the following instructions:

- Remove any oil or grease traces with a dry solvent or a volatile mineral alcohol
- Before assembling a new part, remove any protection product (rust-preventer, grease, wax etc.).
- Remove any trace of rust from metal parts with some emery cloth before smearing the part with a protection product (rust-preventer, paint, oil etc.).

NOTICE

Do not use water at high pressure for washing the machine and especially the main valve, the solenoid valves and electrical parts.

External washing

Before washing the machine, check that the engine is shut down and the doors and windows are closed.
Do not, at any times, use fuel to clean the machine.
Use water or some steam. In cold climates, dry the locks after washing or smear them with an antifreeze.
Before using the machine again, check its conditions.

Internal washing

Wash the machine interior with some water and a sponge. Do not use water at high pressure. After washing, dry with a clean cloth.

Washing the engine

Before washing the engine, protect the air intake filter to prevent water from entering the circuit.

NOTICE

If the machine shall be used in a marine or equivalent environment, protect it against salt deposits with an adequate treatment against saltiness to prevent rust formation.

Transporting the machine

■ MACHINE DISPOSAL

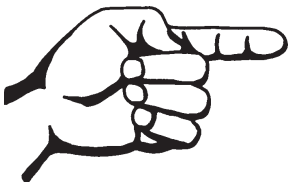


At the end of the machine life, call in a specialised firm to dispose of it in compliance with the local or national regulations.

■ Battery disposal



Used lead-acid batteries cannot be disposed of as normal industrial solid wastes. Because of the presence of harmful substances, they must be collected, eliminated and/or recycled in accordance with the laws of the UE.
Used batteries must be kept in a dry and confined place. Make sure the battery is dry and the cell plugs are tight. Place a sign on the battery to warn of not using it. If before disposal the battery is left in the open air, it will be necessary to dry, smear the box and the elements with a coat of grease and tighten the plugs. Do not rest the battery on the ground; it is always advisable to rest it on a pallet and cover it. The disposal of batteries shall be as rapid as possible.



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Maintenance

Observe and obey:

* The operator can only perform the routine maintenance operations envisaged in this manual.
* Scheduled maintenance procedures shall be completed by qualified technical personnel according to the manufacturer's specifications.

Maintenance symbol legend:

The following symbols are used in this manual to help you understand better the instructions provided. When one or more symbols appear at the beginning of a maintenance procedure, they indicate the following:



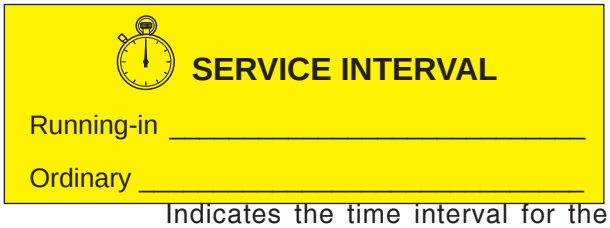
Indicates that tools are required to perform the procedure.



Indicates that new parts are required to perform the procedure.



Indicates that a cold engine is required to perform the procedure.



Indicates the time interval for the maintenance jobs expressed in working hours.

INTRODUCTION

A thorough and regular maintenance keeps the machine in a safe and efficient working condition.

For this reason, it is advisable to wash, grease and service the machine properly, especially after having worked under particular conditions (muddy or dusty environments, heavy operations, etc.).

Always ensure all machine components are in good condition. Check for oil leaks or loosening of guards, and make sure that the safety devices are efficient. In case of defects, find and rectify them before using the machine again.

Not respecting the ordinary maintenance schedule of this manual automatically voids TEREXLIFT warranty.

NOTICE

For the engine maintenance, please refer to the specific Operator handbook supplied with the machine.

Maintenance

LUBRICANTS - HEALTH AND SAFETY PRECAUTIONS

Health
A prolonged skin contact with oil can cause irritation. Use rubber gloves and protective goggles. After handling oil, carefully wash your hands with soap and water.

Storage
Always keep lubricants in a closed place, out of the children's reach. Never store lubricants on the open air and without a label indicating their contents.

Disposal
New or exhausted oil is always polluting! Never drain oil on the ground. Store new oil in a suitable warehouse. Pour exhausted oil into cans and deliver them to specialised firms for disposal.

Oil leaks
In case of accidental oil leaks, cover with sand or type-approved granulate. Then scrape off and dispose of it as chemical waste.

First aid

Eyes : In case of accidental contact with the eyes, wash with fresh water. If the irritation persists, seek medical advice.

Intake : In case of oil intake, do not induce vomiting, but seek medical advice.

Skin : In case of a prolonged contact, wash with soap and water.

Fire
In case of fire, use carbon dioxide, dry chemical or foam extinguishers. Do not use water.

Maintenance

ORDINARY MAINTENANCE

A wrong or neglected maintenance can result in possible risks for both operator and bystanders. Make sure maintenance and lubrication are carried out according to the manufacturer's instructions to keep the machine safe and efficient.
The maintenance interventions are based on the machine working hours. Regularly check the hour-meter and keep it in good conditions to define the maintenance intervals correctly. Make sure any defect detected during the maintenance is promptly rectified before using the machine.

CAUTION

All "▲" marked operations must be carried out by a skilled technician.

During the first 10 working hours

1 Check the oil level within reduction and differential gears
2 Regularly check the tightening of the wheel bolts
3 Check the tyre inflation
4 Check the tightening of all bolts and nuts
5 Check the couplings for oil leaks

Within the first 50 working hours

1. Grease the sliding parts and the pivot pin of the telescopic boom

Within the first 250 working hours

1 Grease the sliding parts and the pivot pin of the telescopic boom

Every 10 working hours or daily

1 Check the engine oil level
2 Clean the air suction filter
3 Clean the air suction pre-filter
4 Remove the dust from the filter by squeezing the special rubber element on the same filter
5 Check the engine coolant level
6 Clean the radiator, if necessary
7 Check the hydraulic oil level within the reservoir
8 Make sure that the boom sections are well - greased close to the sliding pads
9 Grease the counterframe/turntable slewring
10 Grease the attachment holding plate
11 Grease all joints of boom and stabilisers, the front and rear axle shaft joints, the transmission shafts and any equipment of the machine
12 Ensure the lighting system is efficient
13 Ensure both braking system and parking brake are efficient
14 Ensure the differential locking is efficient
15 Ensure the steering selection system is efficient
16 Ensure the mechanical gear selection system is efficient
17 Ensure the back/forward selector switch is efficient
18 Ensure the fork balance system is efficient
19 Make sure the safety devices installed are in efficient working order

Maintenance

Every 50 working hours or weekly

Jobs to be done in addition to those above.

1 Check the tension of the alternator belt
2 Check the tyre inflation
3 Check the tightening of the wheel nuts
4 Check the tightening of the Cardan shaft screws
5 Check the tightening of the screws fixing the counterframe/turntable rotation slewring
6 Check the tightening of the telescope sliding blocks
7 Check the sleeves connecting the air filter to the engine cooling system
8 Check the operation of the emergency pump, when it is installed.

Every 250 working hours or monthly

Jobs to be done in addition to those above.

1 Change the engine oil and relevant filter
2 Check the oil level in the gearbox
3 Check the oil level in the differential gears
4 Check the oil level in the four wheel reduction gears
5 Check the oil level in the counterframe/turntable rotation reduction gear
6 Check the condition of the engine air filter. Replace, if necessary
7 Check the clamping of the cable heads to the battery terminals
8 Check the condition of the air suction hose between engine and filter
9 Check the condition of the cylinder chrome-plated rods
10 Check the hydraulic lines are not worn due to a rubbing against the frame or other mechanical components
11 Ensure electrical cables do not rub against the frame or other mechanical components
12 Check the wear of the sliding pads of the boom sections
13 ▲ Adjust the clearance of the sliding pads of the boom sections
14 ▲ Adjust the parking brake
15 Check the level of the battery electrolyte

Every 3 working months

1 Check the efficiency of the block valves

Every 500 working hours or every two months

Jobs to be done in addition to those above.

1 Visually check the quantity of smoke from the engine exhaust
2 Check the tightening of the engine fixing screws
3 Check the tightening of the cab fixing screws
4 Check the backlash between pins and bushings in all joints
5 Check the clearance of the slewring
6 Change the engine air filtering element
7 Change the engine Diesel-oil filter
8 Change the hydraulic oil filter of the transmission
9 Have the hydraulic system checked by a qualified technician

Every 1000 working hours or every six months

Jobs to be done in addition to those above.

1 Change the oil in the front and rear differential gears
2 Change the oil in the counterframe/turntable rotation reduction gear
3 Change the oil in the four wheel reduction gears
4 Change the hydraulic oil
5 Remove any grease from the boom, then re-grease the sliding parts of the boom sections.
6 Clean or replace, if nececessary, the air filter in the cab
7 Grease the sliding parts and the pivot pin of the telescopic boom

Maintenance

Every 1500 working hours or seasonally
Jobs to be done in addition to those above.

1 Change the oil in the gearbox

Every 2000 working hours or yearly
Jobs to be done in addition to those above.

1 Change the engine coolant

Every 6000 hours or 5 years and, subsequently, every 2 years
Jobs to be done in addition to those above.

1 Check that the structure is intact paying a special attention to the welded supporting joints and the boom pins.

■ OIL CHANGE SCHEDULE

	Job	Operating hours *	Service interval *	Oil type
Engine	Oil level check	10	daily	SHELL RIMULA 15W-40 (API CH-4/CG-4/CF-4/CF; ACEA E3; MB228.3)
	First change	500	-	
	Subsequent changes	500	yearly	
Axles and power divider	Oil level check	300-400	monthly	TRACTORENAULT THFI 208 LF SAE 80W; API GL4 / FORD M2C 86B; MASSEY FERGUSON M 1135
	First change	150-200	-	
	Subsequent changes	1500	seasonally	
Hydraulic oil	Oil level check	10	daily	SHELL TELLUS T 46 DENISON HF-1, DIN 51524 part 2 & 3
	First change	-	-	
	Subsequent changes	1000	6 month	
Turntable rotation reduction gear	Oil level check	250	monthly	SHELL OMALA 150 DN 51 517-3 CLP, ISO 12295-1 TYPE CKC, US STEEL 224, DAVID BROWN 51.53.101
	First change	-	-	
	Subsequent changes	1000	6 month	

* whichever occurs first.

Maintenance

MAINTENANCE INTERVENTIONS

WARNING

All maintenance interventions must be carried out with engine stopped, parking brake engaged, working attachments flat on the ground and gear lever in neutral.

WARNING

When raising a component for maintenance purposes, secure it in a safe way before any maintenance intervention.

WARNING

Any intervention on the hydraulic circuit must be carried out by skilled personnel.
The hydraulic circuit of this machine is fitted with pressure accumulators. You and others could be seriously injured if accumulators are not completely depressurised.
For this purpose, shut the engine down and step on the brake pedal 8/10 times.

WARNING

Before any operation on hydraulic lines or components, make sure there is no residual pressure. For this purpose, stop the engine, engage the parking brake and operate the control levers of the main valve in both working directions (alternately) to depressurise the hydraulic circuit.

CAUTION

High pressure lines must be replaced by qualified personnel only.
Any foreign matters entering the closed circuit may result in a sudden deterioration of the transmission.

CAUTION

The qualified staff charged with the maintenance of the hydraulic circuit must clean all areas around with care before any intervention.

PROTECT THE ENVIRONMENT

The handling and disposing of used oils can be ruled by local or national regulations. Address to authorised centres.

Maintenance

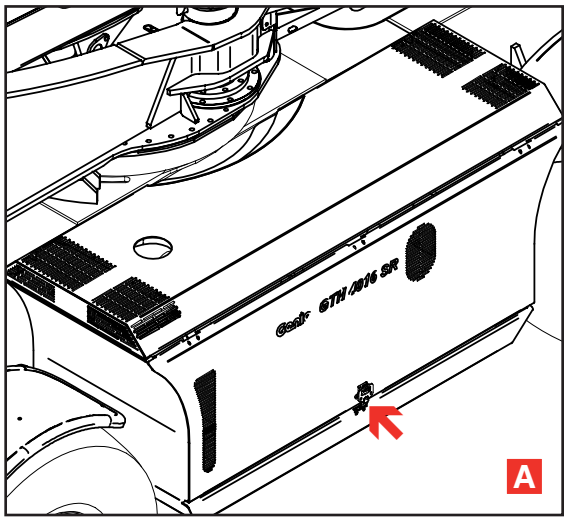
ACCESS TO THE ENGINE COMPARTMENT

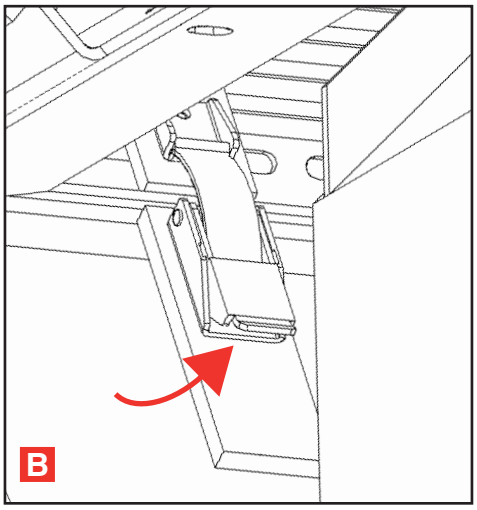
For any operation within the engine compartment, open the protection bonnet.
The bonnet is equipped with pneumatic shock absorbers which unburdens and hold the bonnet in raised position. To open the bonnet:

- Shut the engine down and put the parking brake.
- Turn the key to unlock and open the bonnet front part (see fig. **A**).
- Open the special joints placed to both side of the bonnet upper part (see fig. **B**).

CAUTION

Take all precautions when approaching the engine compartment. Some parts of the engine may be very hot. Always use protective gloves.





Maintenance

■ ENGINE AIR FILTER

Clean the engine air filter and replace the elements, when necessary.

1 ***Cleaning and changing the external element***

- Shut the engine down and put the parking brake.
- Open the four latches **A**.
- Remove the protection cap **B**.
- Extract the external cartridge **C**.
- Clean the filter bowl.
- Beat the cartridge against a piece of wood surface to eliminate any dust.
- Dry clean the cartridge (max. pressure: 6 bar).
- Check for cracks in the filtering element.
- Before refitting the cleaned cartridge or a new one, smear its seal with a thin coat of grease; fit the cartridge and make sure it is properly positioned.
- Refit cap **A**.

NOTICE

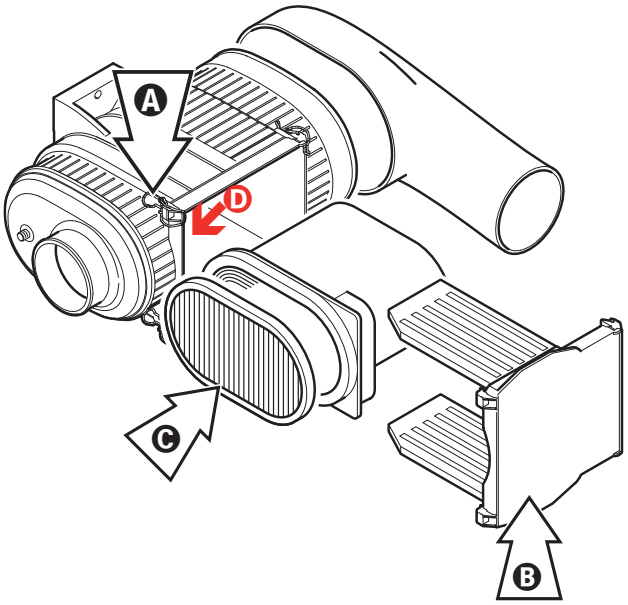
As soon as the warning lamp 40 on the cab dashboard switches on, replace the outer element.
Never wash the cartridge with water or solvents.

2 ***Changing the internal element***

- See step **1** for removing the outer element.
- Extract the internal cartridge **D**.
- Clean the filter bowl.
- Smear the seal with grease, then mount the new element and make sure it is correctly positioned.
- Refit the main filter and the cap as described in point **1**.

NOTICE

The inner element should be replaced every two times the outer element is replaced.
Never wash the cartridge with water or solvents.



SERVICE INTERVAL

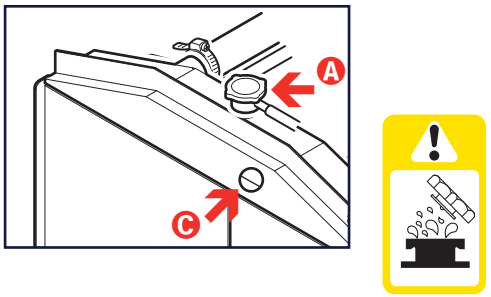
Running-in	None
Cleaning	Every 10 hours
Outer element change	Every 500 hours
Inner element change	Every 1000 hours

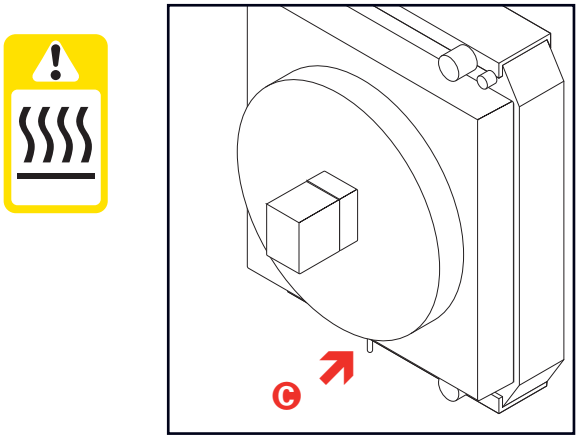
Maintenance

ENGINE COOLING SYSTEM

CAUTION

When the coolant is hot, the cooling system is under pressure. With warm engine, loosen the radiator plug slowly and carefully, without removing it, to drain the pressure. Use protection gloves and keep your face at a safe distance.





- Weekly check the coolant level within pan **A** before starting working (when coolant is cold).
- When necessary, add clean water or an antifreeze mixture through cap **B**.
- Change the antifreeze mixture every two years.
  To drain the antifreeze:
  - Let the engine cool down.
  - Unscrew the plug **C** at the bottom of the radiator. Allow the coolant to flow out into a special container.
  - Once the coolant has been drained, refit plug C and pour fresh mixture (50% water and 50% antifreeze) in the radiator. This proportion will provide protection down to -38°C.
- Daily clean the radiator grille using a brush with hard bristles or compressed air at a max pressure of 6 bar.

On delivery, the machine is filled with a cooling mixture consisting of 50% water and 50% anti-freeze.

TEREX PRO COOL Protection against boiling / freezing		
Product %	Freezing point	Boiling point
33	-17°C	123°C
40	-24°C	126°C
50	-36°C	128°C
70	-67°C	135°C

SERVICE INTERVAL

Running-in _____ **None**

Ordinary _____ **Every 50 hours**

Maintenance

■ CHECKING THE OIL LEVEL IN THE TANK

CAUTION

Fine jets of hydraulic oil under pressure can penetrate the skin. Do not use your fingers, but a piece of cardboard to detect oil leaks.

Check the hydraulic oil level (visually) through the special level **A** fitted into the tank.
When necessary, add new oil through filler **B**.

SERVICE INTERVAL

Running-in _____ **Within the first 10 hours**

Ordinary _____ **Every 50 hours**

PROTECT THE ENVIRONMENT

Handling and disposal of exhausted oils may be ruled by local or national regulations. Dispose of the exhausted oils through the special authorised centres.

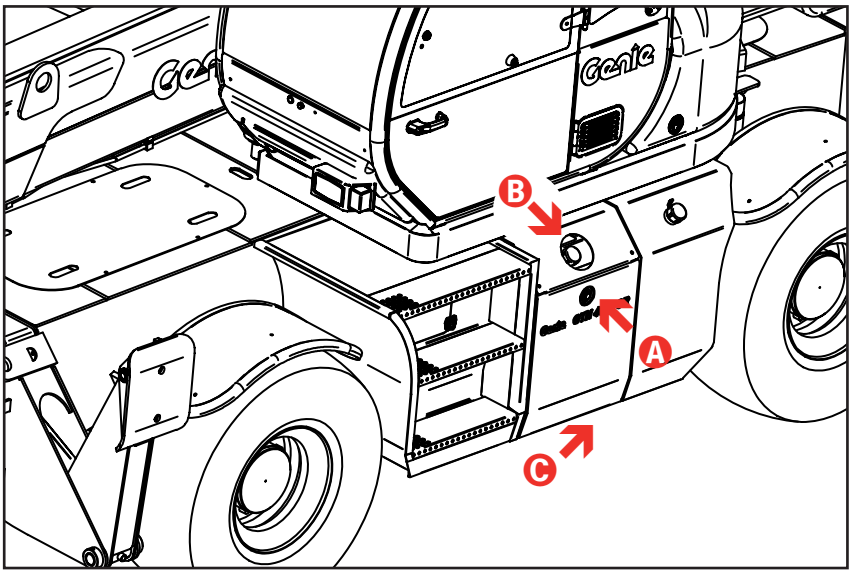
■ CHANGING THE HYDRAULIC OIL

1 Stop the machine on a level ground and make sure the parking brake is engaged.
2 Release the pressure from the hydraulic circuit.
3 Place a container of suitable size under the drain plug **C**, placed in the lower part of the reservoir, and collect any oil leaks.
4 Remove the drain plug **C** and allow oil to flow out into the container.
5 Refit the drain plug **C**.
6 Add new oil by making sure that it matches the recommended type until it is level with **A**.

SERVICE INTERVAL

Running-in _____ **None**

Ordinary _____ **Every 1000 hours**

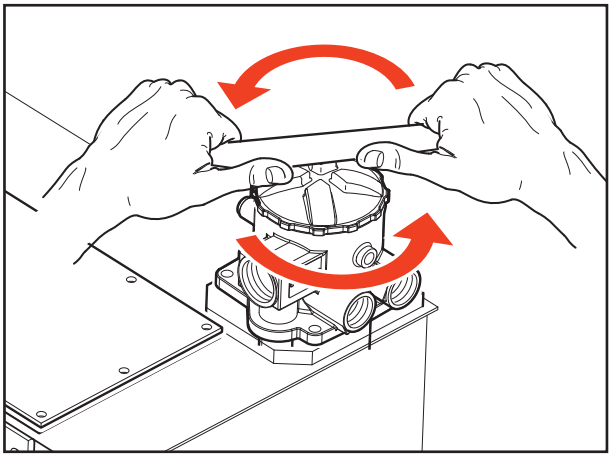


Maintenance

CHANGING THE OIL FILTER CARTRIDGE

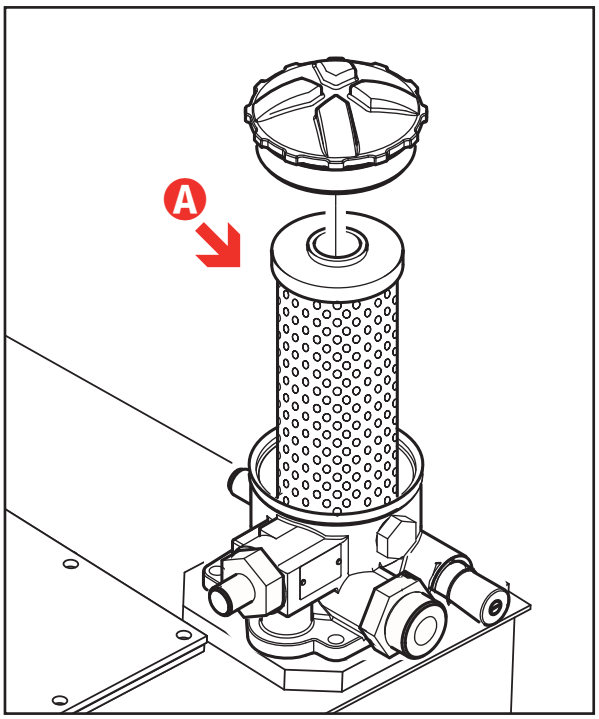
To change the hydraulic oil filter element, proceed as follows:

1 Stop the machine on a level ground and engage the parking brake.
2 Place a container of suitable size under the filter to collect any oil leaks.
3 Remove the filter cover to get access to the filter element **A**.
4 Change the filter element, then, before fitting a new one, thoroughly clean and grease both seat and gasket.
5 Refit and tighten the filter cover.



NOTICE

The hydraulic oil filter cartridge shall be replaced as soon as the warning light 6.7 comes on (see par.* Controls and instruments*).



NOTICE

Hydraulic oil filter canisters cannot be cleaned or washed and refitted.
They must be replaced with new ones of the type recommended by the manufacturer.

PROTECT THE ENVIRONMENT

The handling and disposing of used oils may be ruled by local or national regulations. Address to authorised centres.

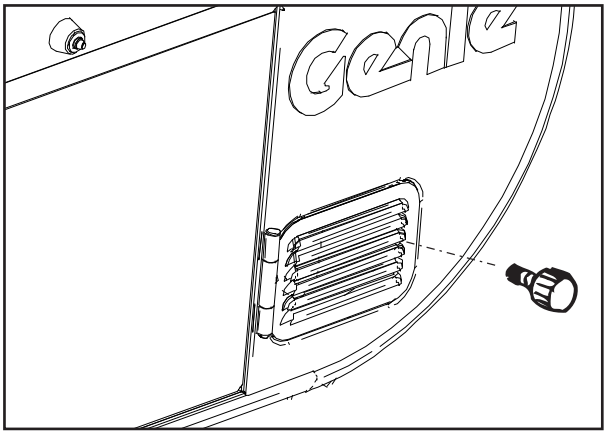
SERVICE INTERVAL

Running-in	**None**
Ordinary	**Every 500 hours**

Maintenance

CAB AIR FILTER

Every six months clean the air filter in the cab. Replace the cartridge if the filtering cloth is damged.

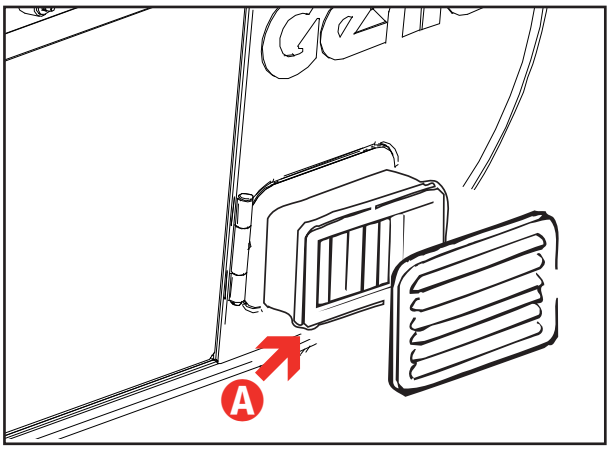


1 Cleaning and changing the cartridge:

- Shut the engine down and engage the parking brake.
- Pull filter **A** out of the housing accessible from the outside of the cab.
- Clean the filter bowl.
- Clean the filter cartridge by beating it against a piece of wood. Replace the cartridge if damaged.

NOTICE

Paper filters must never be cleaned using compressed air or washed with water and/or solvents.



Maintenance

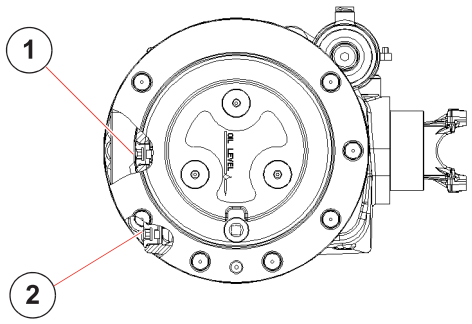
OIL LEVEL IN THE AXLES

To check the oil level in the axles:

- Stop the machine on a level ground and engage the parking brake.
- Loosen level plug ① and check if oil is level with the hole.
- If necessary, top-up through the same hole.
- Refit and tighten plug ①.

To change the oil:

- Place a container of suitable size under drain plug ②.
- To drain the oil remove one the two level plugs ① and the drain plug ②.
- Drain all oil.
- Clean the plug ② and tighten it to a 60Nm torque.
- Unscrew the oil fill plug ① and fill to the bottom of the level plug hole
- with the specified oil.
- Wait to allow the oil to flow through the axle. Check oil level and fill to
- the specified level if necessary.
- Screw the plug ① to a 60Nm torque.



SERVICE INTERVAL

Running-in _____ **Within the first 10 hours**

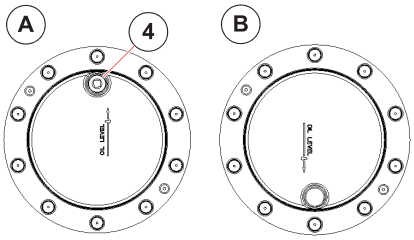
Ordinary _____ **Every 250 hours**

OIL LEVEL IN THE EPICYCLIC REDUCTION GEARS

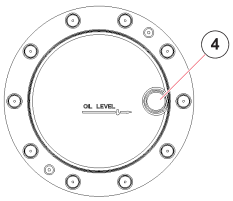
To check the oil level within the wheel reduction gears:

- Stop the machine on a level ground and ensure the parking brake is engaged and plug finds on the horizontal axis.
- Clean the plug all around, then remove it and check if oil is level with the hole.
- If necessary, add new oil through hole until it is level.
- Refit the plug.

To change the oil:



- Before draining the oil from wheel end rotate the wheel end so that the plug ④ is at the highest position [pos.A] and partially unscrew to release possible pressure.
- Rotate the wheel end so that the plug ④ is toward the ground [pos.B].
- Remove the plug and drain the oil.
- Rotate the wheel end so that the hole ④ is in the position as shown in beside fig.
- Fill to the bottom of the fil plug hole with specified oil.
- Tighten the plug to a 60Nm torque.



SERVICE INTERVAL

Running-in _____ **Within the first 10 hours**

Ordinary _____ **Every 250 hours**

Maintenance

OIL LEVEL IN THE GEARBOX

To check the oil level in the gearbox:

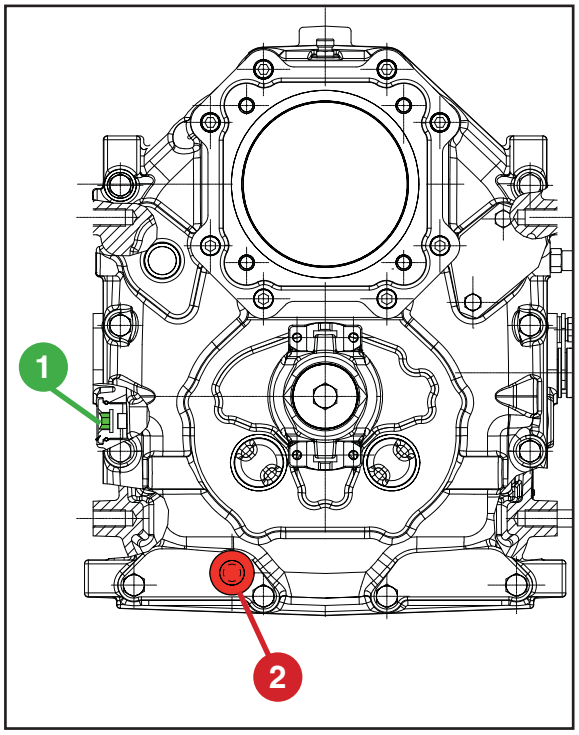
- Stop the machine on a level ground and make sure the parking brake is engaged.
- Clean level plug ① all around.
- Remove the plug and check if oil is level with the hole.
- When necessary, add new oil through plug ① until it is level with the hole.
- Refit and tighten the plug.

To change the oil:

- Place a container of suitable size under the drain plug.
- Remove the plug ①.
- Remove the drain plug ② and empty the gearbox.
- Refit and tighten the drain plug ②.
- Pour in new oil through the filler ① placed at the top of the reduction gear of the power divider. Stop when oil is level with hole ①.
- Refit and tighten plug ①.

1 *Filling plug*

2 *Drain plug*



SERVICE INTERVAL

Running-in _____ **Within the first 50 hours**

Ordinary _____ **Every 350 hours**

Maintenance

TURRET ROTATION REDUCTION GEAR

Checking the oil level of the turret rotation reduction gear

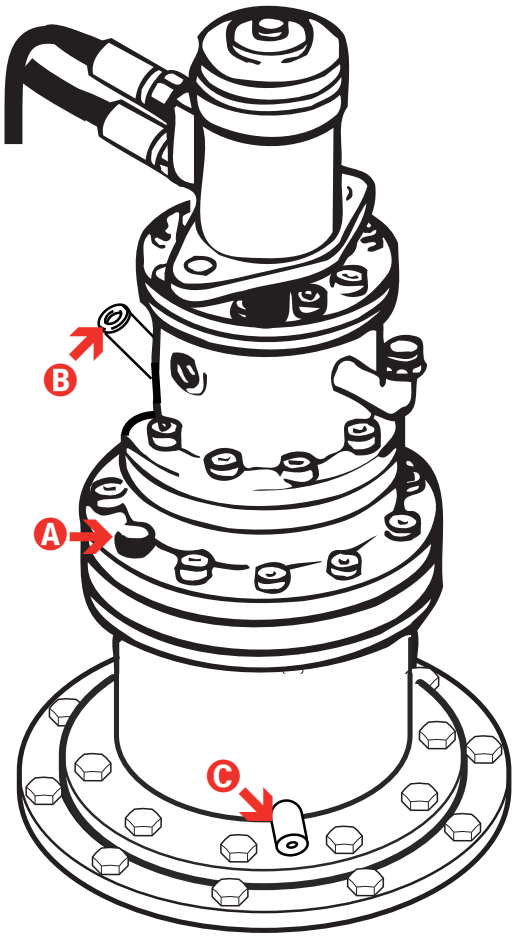
To check the oil level of the turret rotation reduction gear:

- Stop the machine on a level ground and engage the parking brake.
- Clean level plug **A** all around.
- Loosen level plug **A** and check if oil is level with the hole.
- If necessary, unscrew the filling plug **B** and pour new oil through the hole until it starts flowing out of hole **A**.
- Refit and tighten plugs **A** and **B**.

SERVICE INTERVAL

Running-in _____ **None**

Ordinary _____ **Every 250 hours**



Change the oil in the turret rotation reduction gear

If you shall change the oil in the turntable rotation reduction gear:

- Stop the machine on a level ground and engage the parking brake.
- Place a container of suitable size under drain plug **C**.
- Remove drain plug **C** and let oil flow out of the reduction gear.
- Unscrew the filling plug **B**.
- Clean level plug **A** all around.
- Loosen level plug **A**.
- Refit and tighten drain plug **C**.
- Pour new oil through the hole of plug **B** until it starts flowing out of hole **A**.
- Refit and tighten plugs **A** and **B**.

SERVICE INTERVAL

Running-in _____ **None**

Ordinary _____ **Every 1000 hours**

Maintenance

GREASING

CAUTION

Before injecting grease into the greasers, thoroughly clean them to avoid that mud, dust or other matters can mix with the lubricant and reduce or annihilate the lubrication effect. Remove any old grease with a degreaser from the telescopes before smearing them with new grease.

Regularly grease the machine to grant it efficient conditions and a long life. By means of a pump, inject grease into the special greasers. As the fresh grease comes out, stop the operation.

The greasing points are shown in the following figures:

- the symbol  represents the points to be greased by a pump

- the symbol  represents the points to be greased by a brush.

SERVICE INTERVAL

Running-in _____ **None**

Ordinary _____ **Every 10 hours**

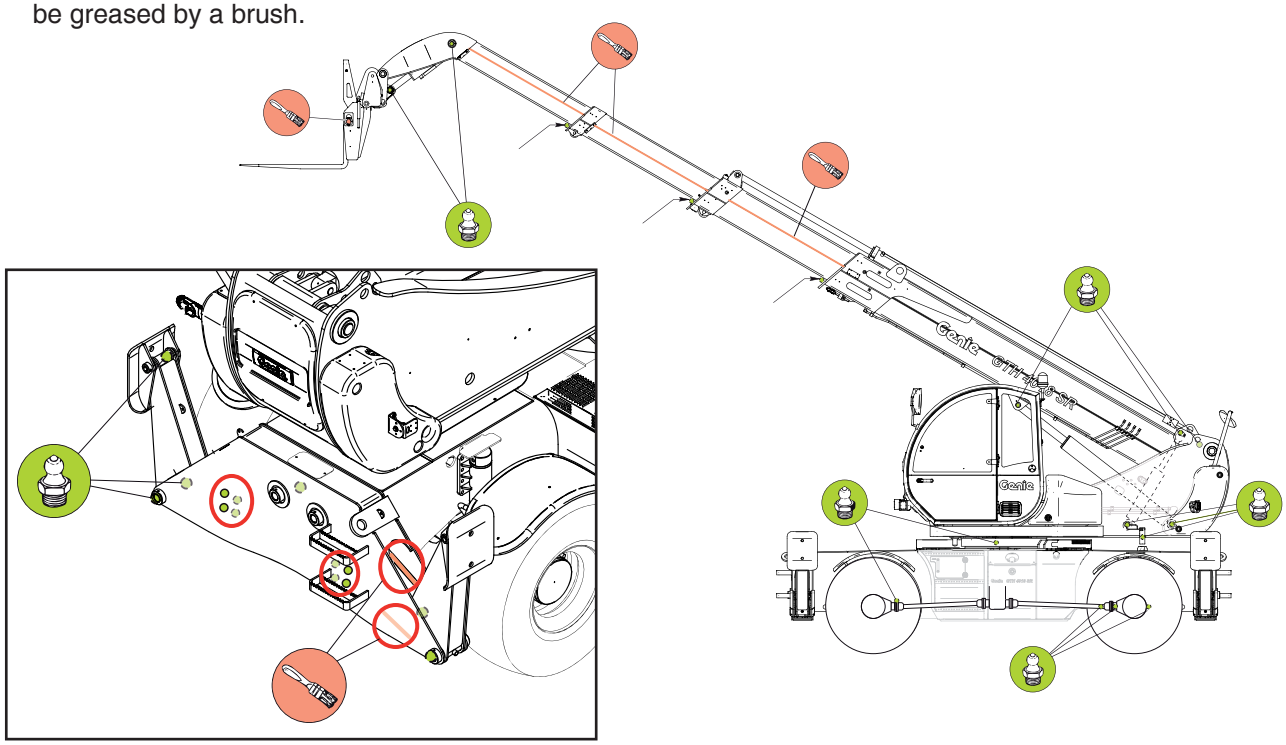
CAUTION

Use only PTFE INTERFLON FIN GREASE LS 2 to lubricate the sliding parts of the telescopic section. Observe the following schedule:

- ***After the first 50 operating hours (1 week)***
- ***After the first 250 operating hours (1 month)***
- ***Every 1000 operating hours (6 months)***

Remove any old grease from the boom and smear the sliding area of the blocks with a thin coat of grease.

Greasers in the red circles are referred just to GTH-4018 SR



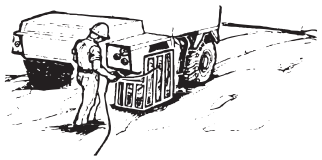
Maintenance

TYRES AND WHEELS

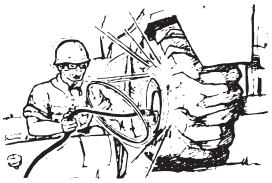
Over-inflated tyres can burst.

Overheated can burst. Do not weld the wheel rims. For any repair work, call in a qualified technician.

OKAY



WRONG



For the tyre inflation or substitution, please refer to the table below:

	GTH-4016 SR GTH-4018 SR
Dimensions (front and rear)	18 - 19.5
P.R. (or load index)	16 pr
Rim	14x19.5
Wheel disc	10 holes DIN 70361
Pressure bar/Psi	5,5/80

On new machines, and when a wheel has been disassembled or replaced, check the nut torque of the wheels every 2 hours until they stay correct.

Torque: 400 N/m.

Always use tyres having the dimensions indicated in the vehicle registration card.

SERVICE INTERVAL

Running-in _____ **Within the first 10 hours**

Ordinary _____ **Every 250 hours**

BRAKES

For any intervention on the braking system (adjustment and/or substitution of the brake discs) address to the TEREXLIFT Technical Assistance Service or the nearest TEREXLIFT authorised workshop.

Maintenance

SHAFTING ALIGNMENT

During operation, the alignment of the front and rear axles of the machine can be subject to variations. This can depend on an oil blow-by from the steering control circuit, or on a steering of both axles when front and rear wheels are not perfectly aligned.

To fix this problem, rather than checking the alignment visually, follow the procedure below:

1) Move to a solid and level ground

2) Set the steering selector **24** to "four-wheel steer" (pos. **2**)

3) Rotate the steering up to its stop (either to the right or to the left)

4) Set the steering selection switch to "two-wheel steer" (pos. **0**)

5) Rotate the steering up to its stop (turn in the same direction as above)

6) Reset the steering selection switch to "four-wheel steer" (pos. **2**)

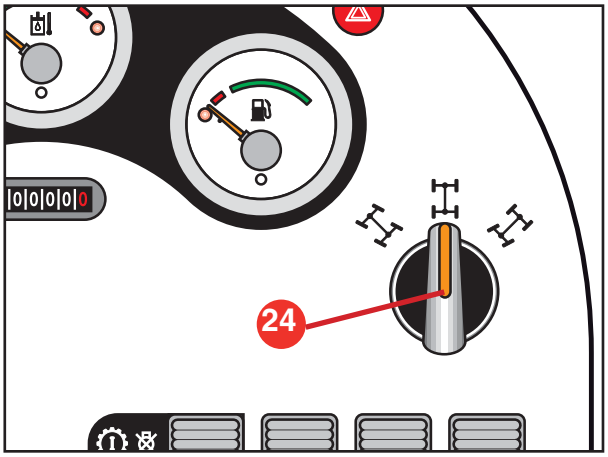
7) Rotate the steering (to the side opposite to point **3**) so that the rear axle reaches its stop

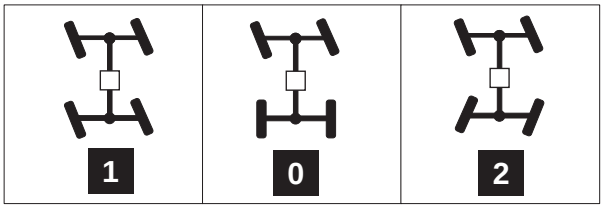
8) Reset the steering selection switch to "two-wheel steer" (pos. **0**)

9) Rotate the steering (to the same side as in point **7**) so that the front axle reaches its stop

10) Reset the steering selection switch to "four-wheel steer" (pos. **2**)

Now the wheels should be re-aligned.





The machine is equipped with the rear wheel shafting indicator : on the LMI panel a note comes on automatically when, by turning the steering selector switch from position 1 to position 0 or from position 2 to position 0, rear wheels are aligned.

SERVICE INTERVAL

Running-in	**None**
Ordinary	**When necessary**

Maintenance

ADJUSTING THE SLIDING PADS OF THE BOOM SECTIONS

Any boom section is fitted with adjustable pads located on the four sides of the profile. These pads are secured to both fixed and mobile part of every section.

All pads can be adjusted by the special shims supplied by TEREXLIFT upon demand.

Adjusting the pads:

- Remove or loosen the screws fixing the pads in relation to type of shims used (with or without slots).
- Fit the necessary amount of shims.
- If the residual thickness of the pad is insufficient or near the maximum wearing limit, renew the pad.
- Tighten the screws fixing the pads at the recommended torque (see below). Use a dynamometric wrench.

Tightening torques of the pad screws in relation to the screw diameter

Screws M10	Nm 30
Screws M14	Nm 50

Tightening torques higher than those recommended can cause the break of the pad or of the locking threaded bush.

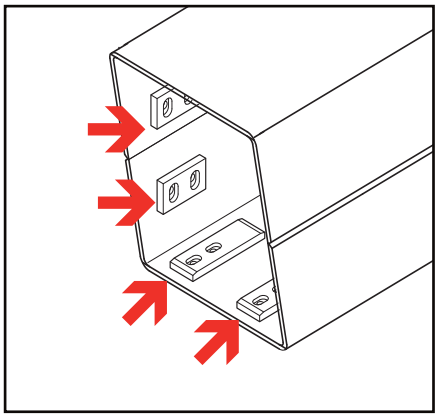
CAUTION

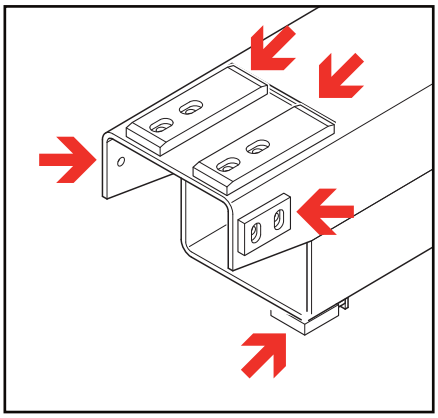
Pads must compulsorily be replaced if the residual thickness of the plastic layer with respect to the iron bush fixing the block is equal or inferior to 1 mm.

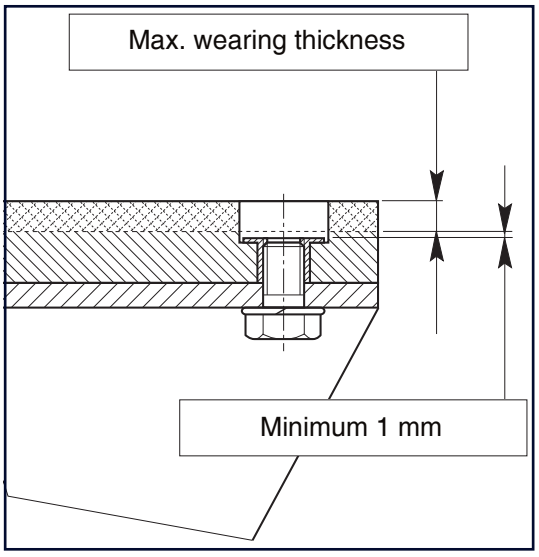
SERVICE INTERVAL

Running-in _____ **None**

Ordinary _____ **When necessary**







Maintenance

■ RE-SEQUENCING THE TELESCOPIC BOOM (Only for GTH-4016 SR)

If, during normal operation, a change in the boom extended lengths of 150 mm or more is noticed when the boom is retracted, proceed as follows:

1. Fully retract the telescope cylinder and hold the system over relief (approx. 15 seconds); the boom sections should become equal.

If after performing this procedure the boom still remains out of sequence, proceed with the steps below:

2. Move the boom to the zero position, fully retract the boom and hold the retract system over relief for approx. 20 seconds.
3. Raise the boom to approx. 60° and operate the retract function over relief for approx. 20 seconds.
4. Lower the fully retracted boom to the lowest angle possible without striking the ground and hold the retract system over relief for approx. 20 seconds.

If, despite these procedures, the boom does not return in sequence, raise the boom to approx. 60°, fully extend and retract it to full stroke and hold the system over relief (approx. 20 seconds) in each direction.

By following these procedures the boom re-sequencing should be correct.

SERVICE INTERVAL

Running-in _____ **None**

Ordinary _____ **When necessary**

■ TENSIONING THE BOOM CHAINS (Only for GTH-4018 SR)

To tighten the boom chains, follow the instructions below:

1. Fully extend the boom
2. Retract the boom by some 20/30 cm.
3. Tighten the chain up to a maximum tension value of 25 Nm
4. Check that all chains have been equally tensioned. If not, repeat the operation described above
5. Lock the chain tensioners by means of a counter-nut and locknut.

SERVICE INTERVAL

Running-in _____ **None**

Ordinary _____ **Every 500 hours**

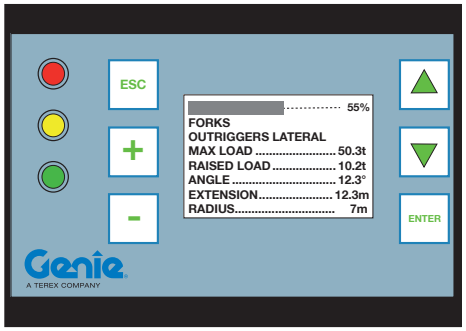
Maintenance

CHECKING THE SAFETY DEVICES

Checking the MOMENT LIMITING SYSTEM (at every use)

At the machine start-up, the moment limiting system runs an automatic check. In the case of troubles, the red led will come on and the buzzer will sound to warn of the error. The machine will enter the alarm mode and no operation will be allowed.
To check the system manually, proceed as follows:

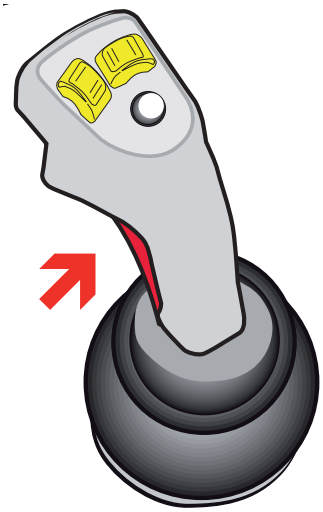
- Load a weight of 1000 kg.
- Raise the boom about 30 cm above the ground.
- Extend the telescope and check if the system enters the alarm mode once reached the distance indicated in the load charts for the attachment fitted to the machine.
  If the system does not enter the alarm mode, contact the TEREXLIFT Technical Service.



Do this check in the two positions: with the turret longitudinal and 90° rotated.

ENABLING FUNCTION SWITCH on JOYSTICK

The joystick is equipped with an enabling function switch.This red pushbutton must be held pressed down until the end of the manoeuvre operated using the joystick; if it is released, the manoeuvre stops.



Checking the JOYSTICK ENABLING FUNCTION SWITCH (at every use)

To check the efficiency of the joystick enabling function switch, it is enough to attempt to operate the joystick without pressing this button:in this condition, the joystick shall not activate any movement.
Should that not be the case, contact the TEREXLIFT Technical Service.

Maintenance

■ **Checking the machine START CONTROL (25)**
(at every use)

Attempt to start the engine with the forward or reverse gear put.

The engine must not start. If the engine starts, contact the TEREXLIFT Technical Service.

Repeat the operation putting first one gear, then the other.

■ **Checking the operation of the EMERGENCY PUMP (27)** (weekly)

If the machine is equipped with an emergency pump, check it is in efficient working order every week.

This pump is not used regularly and, as a result, it could get damaged and be out of order in case of need.

To check that the pump is in efficient order, stop the engine, press the on-off button for some seconds and check that the pump works regularly.

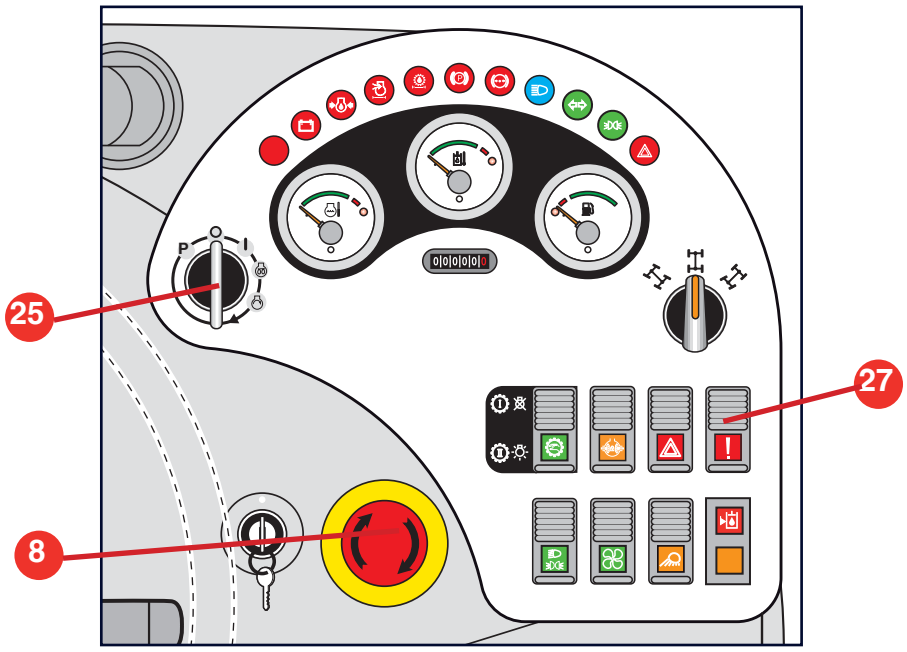
■ **EMERGENCY STOP PUSHBUTTON (8)**

Set on the dashboard, to the right of the steering wheel.Pressing down this button stops the engine of the machine.

Before starting work again, find and rectify the relevant causes, then reset the button to neutral position turning it clockwise.

■ **Checking the emergency stop pushbutton** (at every use)

To check the efficiency of this pushbutton, simply press it down during a movement. The pressure of the pushbutton shall cause the movement to stop and the engine to shut down.



Maintenance

Sensors on OUTRIGGERS

Each outrigger is equipped with sensors:

A Outrigger extension proximity-switch: it indicates the moment limiting system when an outrigger is extended, cutting out the transmission.

B This strain gauge switch indicates when the outrigger is lowered because it senses the pressure of the machine weight to the ground. Consiquently, the overload warning system changes the meter scale from "NOT STABILIZED" to " STABILIZED" conditions.

C Outrigger retraction pressure switch ONLY FOR GTH-4018 SR, it indicates the moment limiting system when an outrigger is retracted

These sensors, in conjunction with the moment limiter, determine the exact stabilising area instant after instant by adapting the max load that can be supported in each configuration.

Checking the outriggers sensors

(at every use)

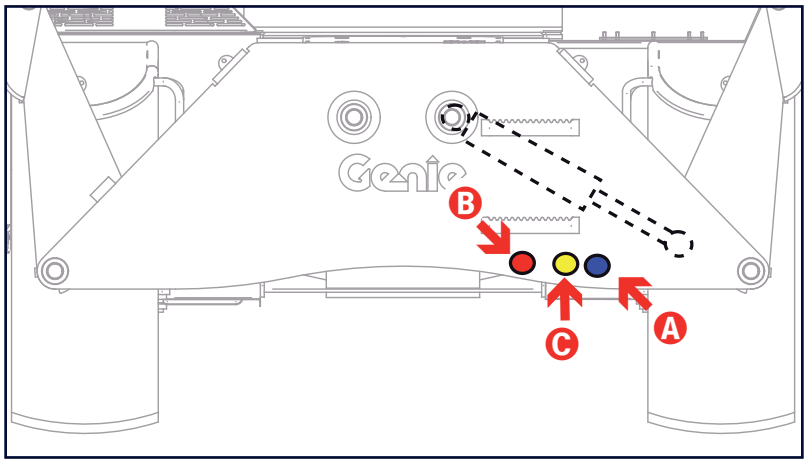
To check the efficiency of the sensors installed in the outriggers:

- Lower or raise all the outriggers.
- The display of the moment limiter will change the scale of the admissible payloads accordingly.

Should that not be the case, contact the TEREXLIFT Technical Service.

WARNING

If a sensor is faulty, immediately replace the part.



Maintenance

■ BLOCK VALVES fitted to all CYLINDERS

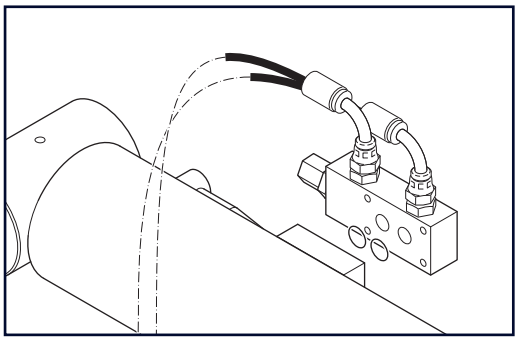
All machine's cylinders are equipped with block valves:

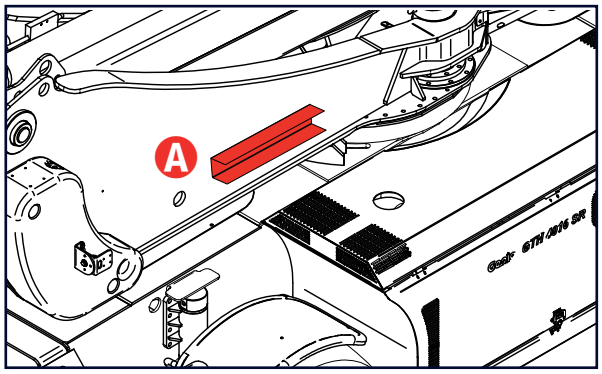
- Block valve on lifting cylinder
- Block valve on balance cylinder
- Block valve on boom extension cylinder
- Block valve on attachment pitching cylinder
- Block valve on outriggers cylinders

DANGER

Always use the lock ring of the lift cylinder (see picture below), when carrying out maintenance on the lift cylinder block valve or, in general, any operation in the area under the boom:

I. Lift and extend the boom
II. Unscrew the two screws on the frame (pos. A) to release the ring
III. Put the ring on the lift cylinder rod
IV. Lock the ring by tightening the screws provided on the ring





Maintenance

■ Checking the block valves (every 3 months)

The piloted blocking valves allow to held the load in position in case of burst of a flexible hose.
To check the efficiency of a valve, proceed as follows:

- Load a weight near the maximum payload onto the boom.
- Raise the load some centimetres above the ground (max 10 cm). To check the valve on the telescope extension cylinder move the boom to maximum height and extend it some centimetres.
- Loosen the oil hoses to the cylinder of which you are checking the valve with caution.
- To check the efficiency of the block valves of the outriggers, lower them to the ground and unload the weight of the tyres without raising them. Loosen the cylinder hoses to check the efficiency of the valve.

During the check, the oil will flow out of the hoses and the load shall remain blocked in position.
Should that not be the case, the valve must be replaced. Contact TEREXLIFT Technical Service.

■ To remove the block valves or the cylinders

- Lower the boom to the ground in a firm way since the removal of the block valve or the cylinder can cause an uncontrolled down-movement.
- After refitting the valve or the cylinder, replenish the circuit and eliminate any air before starting working. To eliminate the air from the circuit, move the involved cylinders to end-of-stroke in the two directions (opening/closing. To eliminate the air from the fork balance cylinder, move the boom up and down and tilt the fork plate forwards/back.

WARNING

Do the check of the valves taking all the possible precautionary measures:

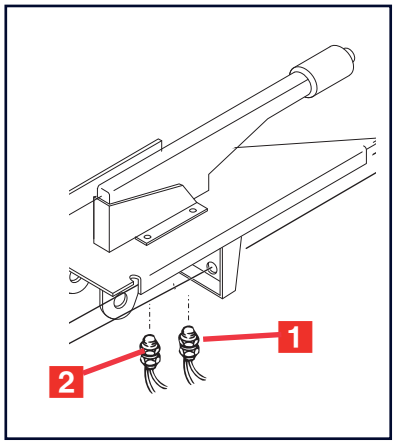
- ***Wear safety glasses***
- ***Wear safety gloves***
- ***Wear safety shoes***
- ***Wear suitable working clothes***
- ***Use guards against leaks of oil at high pressure***
- ***Do the check in a free space with barriers all around to keep non-authorised people away***
- ***Ensure that the part to be checked is in safe condition and that the action generated does not result in an uncontrolled movement of the machine.***

Maintenance

Pressure switches on parking brake (1 and 2)

1- When the parking brake is engaged, this pressure switch stops the machine travel but the engine can still be started.

2- When the parking brake is engaged, this pressure switch activates the warning lights **41** presents in the instruments panel.



Checking the pressure switch on the parking brake (at every use)

To check the efficiency of these pressure switches, proceed as follows:

- Engage the parking brake and start the engine.
- The warning light **41** should come on.
- Attempt to move with the machine. The machine must not move.

Should that not be the case, contact the TEREXLIFT Technical Service.

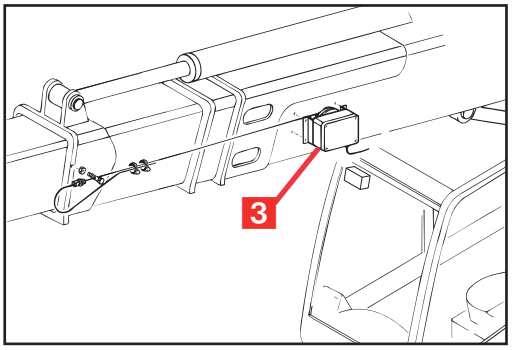
Boom strain gauge (3)

(at every use)

To verify the efficiency of the strain gauge on the boom:

- Visually check the wire for damage..

If the wire is damaged, address to GENIE Technical Service.



If the strain gauge is defective or its wire is broken, the display will show an error message.

Maintenance

CHECKING THE STATE OF THE STRUCTURE

Five years or 6000 hours after the first placing into operation of the machine (whichever occurs first), check the state of the structure paying an extreme attention to the welded supporting joints and the pins of both boom and platform (if present).

WARNING

After the first 5 years, repeat this check every 2 years.

Maintenance

ELECTRICAL SYSTEM

WARNING

All maintenance interventions must be carried out with engine stopped, parking brake engaged, working attachments on the ground and gearbox lever in neutral.

WARNING

When raising a component for maintenance purposes, secure it in a safe way before carrying out any maintenance.

WARNING

Any intervention on the electrical system unless performed by authorized personnel, is expressly forbidden.

BATTERY

- Check the electrolyte level every 250 working hours; if necessary, add distilled water.
- Ensure the fluid is 5/6 mm above the plates and the cell levels are correct.
- Check the cable clips are well secured to the battery terminals. To tighten the clips, always use a box wrench, never pliers.
- Protect the terminals smearing them with pure vaseline.
- Remove the battery and store it in a dry place, when the machine is not used for a long time.

WARNING

- ***Battery electrolyte contains sulphuric acid. It can burn you if it touches your skin and eyes. Always wear goggles and protective gloves, and handle the battery with caution to prevent spillage. Keep metal objects (watch straps, rings, necklaces) clear of the battery leads, since they can short the terminals and burn you.***
- ***Before disconnecting the battery, set all switches within the cab to OFF.***
- ***To disconnect the battery, disconnect the negative (-) lead from the frame earth first.***
- ***To connect the battery, connect the positive (+) lead first.***
- ***Recharge the battery far from the machine, in a well-ventilated place.***
- ***Keep out of items which can produce sparks, of naked flames or lit cigarettes.***
- ***Do not rest metal objects onto the battery. This can result in a dangerous short especially during a recharge.***
- ***Because the electrolyte is highly corrosive, it must never come in contact with the frame of the handler or electric/electronic parts. If the electrolyte comes in contact with these parts, contact the nearest authorised assistance centre.***

WARNING

Risk of explosion or shorts. During the recharge, an explosive mixture with release of hydrogen gas forms.

CAUTION

Do not add sulphuric acid; add only distilled water.

Maintenance

FUSES AND RELAYS

The electrical system is protected by fuses placed in the driving cab, on the left. Before replacing a blown fuse with a new one having the same amperage, find out and rectify the fault.

Fuses

Ref.	Circuit	Amp.
F1	FRONT WINDSCREEN WIPER	10
F2	HEATING	15
F3	OPTIONAL	5
F4	REAR WINDSCREEN WIPER, ROOF WINDSCREEN WIPER	7.5
F5	FLASHING BEACON	10
F6	ROAD LIGHT	15
F7	POSITION LIGHTS	3
F8	POSITION LIGHTS	3
F9	STOP LIGHT	7.5
F10	POSITION LIGHTS SWITCH	7.5
F11	CONTROL INSTRUMENTS-SWITCH LIGHTING	7.5
F12	OPTIONAL	10
F13	MANPLATFORM MODE	10
F14	FORWARD/REVERSE SWITCH	10
F15	ROAD LIGHT	10
F16	HAZARD WARNING LIGHT	15
F17	POSITION LIGHTS SWITCH	10
F18	WORK LIGHTS	10
F19	EMERGENCY STOP	10
F20	SUPPLY POWER PROXIMITY	10
F21	HORN	15
F22	MANPLATFORM SUPPLY POWER	15
F23	CABIN INTERIOR LIGHT	10
F24	CABIN EMERGENCY STOP	10
F25	BOOM AUXILIARY HYDRAULIC SWITCH	10
F26	OPTIONAL	10
F27	SUPPLY POWER LMI CONTROL UNIT	15

Relays

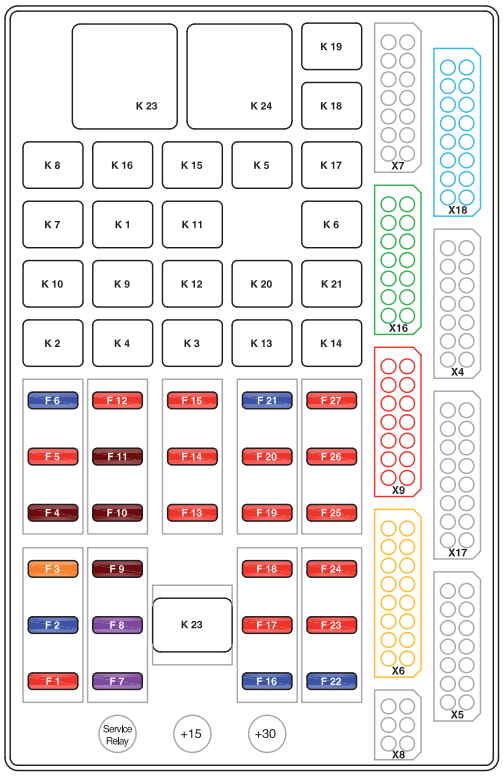
Ref.	Circuit
K1	ROAD LIGHT
K2	ROAD LIGHT
K3	HORN
K4	OPTIONAL
K5	SHIFT FIRST/SECOND MECHANICAL SPEED
K6	OPTIONAL
K7	FORWARD MODE
K8	BACKWARDS MODE/BUZZER
K9	CUT OFF FORWARD/BACKWARDS MODE
K10	CUT OFF FORWARD/BACKWARDS MODE
K11	START ABILITATION
K12	OPTIONAL
K13	OPTIONAL
K14	OPTIONAL
K15	OPTIONAL
K16	OPTIONAL
K17	WORK LIGHTS
K18	BOOM HIGH CAN BUS
K19	BOOM LOW CAN BUS
K20	WORK LIGHTS
K21	OPTIONAL
K22	MANPLATFORM SUPPLY POWER
K23	WARNING LIGHTS
K24	MECHANICAL GEAR UNIT

Engine compartment fuses and relays

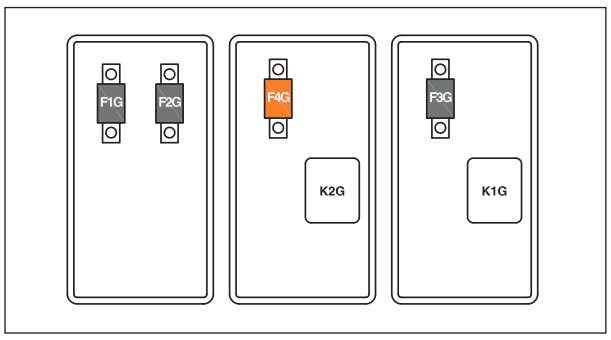
Ref.	Circuit	Amp.
F1G	ENGINE IGNITION KEY	50
F2G	CABIN FUSE/RELAY BOARD	50
F3G	GLOW PLUGS	50
F4G	ENGINE START	30
K1G	GLOW PLUGS	
K2G	ENGINE START	

Maintenance

■ Fuses and relays



■ Engine compartment fuses and relays



NOTICE

- ***Do not use fuses having a higher amperage than that recommended, since they can damage the electric system seriously.***
- ***If the fuse blows after a short time, look for the fault source by checking the electric system.***
- ***Always keep some spare fuses for an emergency.***
- ***Never try to repair or short blown fuses.***
- ***Make sure the contacts of fuses and fuse-sockets ensure a good electric connection and are not oxidised.***

WIRE COLOR LEGEND

COLOR	DESCRIPTION
BK	Black
BL	Blue
BL/BK	Blue/Black
BL/WH	Blue/White
BN	Brown
GN	Green
GN/BK	Green/Black
GN/WH	Green/White
GY	Gray
OR	Orange
OR/BK	Orange/Black
OR/WH	Orange/White
PP	Purple
RD	Red
RD/BK	Red/Black
RD/WH	Red/White
WH	White
WH/BK	White/Black
PK	Pink
LB	Light Blue
Y	Yellow

Maintenance

REFUELLING

REFUELLING

Part	Product	Capacity (L)
Diesel engine	Engine oil	11.5
Engine cooling system	Water+antifreeze	15
Fuel tank	Diesel fuel	205
Hydraulic system tank	Hydraulic oil	220
Gearbox	Oil	4
Differential gears	Oil	8
Epicyclic reduction gears	Oil	1.3
Turret rotation gear	Oil	2.8

PRODUCT SPECIFICATIONS

Engine oil

Use the oil recommended by the Diesel engine Manufacturer (see the relevant handbook delivered with the machine).
At the delivery, the machine is refilled with:

SHELL RIMULA SAE 15W-40 (API CH-4 / CG-4 / CF-4 / CF, ACEA E3, MB 228.3)

Lubrication oils

Refill the machine with following lubricants:

Use	Product	Definition
Gearbox-Differential gears-Reduction gears	TRACTORENAULT THFI 208 LF SAE 80W	API GL4 / FORD M2C 86B Massey Ferguson M1135
Turret rotation reduction gear	SHELL OMALA 150	DIN 51 517-3 CLP, ISO 12295-1 TYPE CKC, US STEEL 224, DAVID BROWN 51.53.101
Hydraulic system and brakes	SHELL TELLUS T46	DENISON HF-1 DIN51524 part 2 & 3

NOTICE

Never mix different oils: this may result in troubles and component breaks.

Oils for hydraulic system:

Arctic climates:	Temperatures below -10°C	Use SHELL Tellus T22
Mild climates:	Temperatures from -15°C to + 45°C	Use SHELL Tellus T46
Tropical climates:	Temperatures above +30°C	Use SHELL Tellus T68

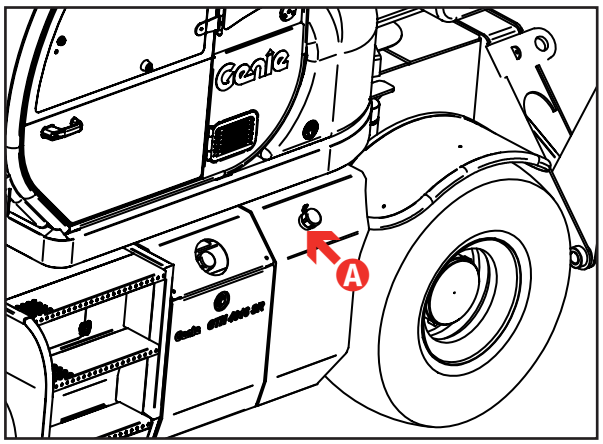
Maintenance

■ Fuel

Refuel through cap **A**. Use only Diesel fuel with less than 0.5% sulphur content, according to the specifications of the diesel engine operation handbook.

NOTICE

In cold climates (temperature under -20°C) use only Arctic type Diesel fuel, or oil-diesel fuel, or oil-diesel fuel mixtures. The composition of the latter can vary in relation to the ambient temperature up to max. 80% oil.



■ Grease

For the machine greasing, use:

Lithium-based Vanguard LIKO grease, type EP2	When greasing by pump.
Graphitized AGIP grease, type GR NG 3	When greasing by brush.
INTERFLON FIN GREASE LS 2	On the telescopic boom

NOTICE

Avoid mixing greases of different type or features and do not use greases of lower quality.

■ Engine coolant

It is advisable to use an antifreeze mixture (50% water-50% antifreeze). At the delivery, the machine is refilled with:

TEREX PRO COOL by VALVOLINE

The use of this product guarantees protection to the circuit for 3 years or 7000 hours without having to add any dry coolant additive.

TEREX PRO COOL Protection against boiling / freezing		
Product %	Freezing point	Boiling point
33	-17°C	123°C
40	-24°C	126°C
50	-36°C	128°C
70	-67°C	135°C

NOTICE

Use an antifreeze mixture in the proportions recommended by the manufacturer in relation to the ambient temperature of the jobsite.

Faults and Troubleshooting

FAULTS AND TROUBLESHOOTING

This chapter represents a practical guide for the operator for fixing the most common failures and, at the same time, detecting those interventions that must be carried out by qualified technical engineers.
If you are unsure about anything, do not carry out operations on the machine, but call in a skilled technician.

WARNING

Any repair work, maintenance or troubleshooting must be carried out with machine stopped, boom in rest position or laid on the ground, parking brake engaged and ignition key removed.

PROBLEM	CAUSES	SOLUTIONS
THE DASHBOARD DOES NOT TURN ON	• Battery down • Fuse in the engine compartment box blown	• Check the battery condition • Check the fuse **F16** in the engine compartment and replace if necessary
THE STARTER DOES NOT RUN	• Forward/reverse gear selector not in neutral position • Emergency button ON • Fuse blown • Battery down	• Set the switch to **0** • Reset the button • Check fuse **F46** and replace if necesary • Recharge or replace the battery
THE STARTER RUNS, BUT THE ENGINE DOES NOT START	• No fuel • Fuel filter clogged • Fuel hose empty (fuel used up)	• Refuel • Change the filter. (See engine operator handbook) • Refuel, then refer to engine operator handbook
THE MACHINE DOES NOT MOVE FORWARD/BACK	• Changeover switch in neutral • Parking Brake engaged • One or more stabilisers down • Lowered stabiliser limit switches tripped • Fuse blown • Low hydraulic oil level	• Set the gear switch • Disengage • Raise the stabilizers • Deactivate • Check fuse **F14** • Check oil in the reservoir
NO SELECTION OF THE STEERING MODE	• Steering mode selector damaged • ROAD/JOSITE/PLATFORM selector turned to ROAD	• Check the selector and replace if necessary. • Turn to JOBSITE
STABILIZERS DO NOT WORK	• ROAD/JOSITE/PLATFORM selector turned to ROAD • Boom lifted over 10°	• Turn to JOSITE • • Lower the boom under 10°

Faults and Troubleshooting

PROBLEM	CAUSES	SOLUTIONS
BOOM MOVEMENTS CANNOT BE OPERATED	• ROAD/JOSITE/PLATFORM selector turned to ROAD	• Turn to JOBSITE
MACHINE IN ALARM (red LED on the IDR display lit)	• Alarm of the moment limiter	• Retract or raise the boom whitin safe limits (see Load Charts)

NOTICE

In case of faults not listed in this chapter, address to the TEREXLIFT Technical Assistance, your nearest authorised workshop or dealer.

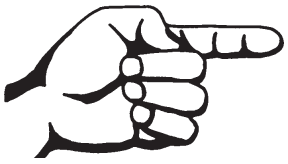
Faults and Troubleshooting

TORQUE WRENCH SETTINGS

D x p	Pre-loading (N)				Torque wrench setting (Nm)			
	4.8	**8.8**	**10.9**	**12.9**	**4.8**	**8.8**	**10.9**	**12.9**
M 4 x 0,7	1970	3930	5530	6640	1,5	3,1	4,3	5,2
M 5 x 0,8	3180	6360	8950	10700	3	6	8,5	10,1
M 6 x 1	4500	9000	12700	15200	5,2	10,4	14,6	17,5
M 8 x 1,25	8200	16400	23100	27700	12,3	24,6	34,7	41,6
M 8 x 1	8780	17600	24700	29600	13	26	36,6	43,9
M 10 x 1,5	13000	26000	36500	43900	25,1	50,1	70,5	84,6
M 10 x 1,25	13700	27400	38500	46300	26,2	52,4	73,6	88,4
M 12 x 1,75	18900	37800	53000	63700	42,4	84,8	119	143
M 12 x 1,25	20600	41300	58000	69600	45,3	90,6	127	153
M 14 x 2	25800	51500	72500	86900	67,4	135	190	228
M 14 x 1,5	28000	56000	78800	94500	71,7	143	202	242
M 16 x 2	35200	70300	98900	119000	102	205	288	346
M 16 x 1.5	37400	74800	105000	126000	107	214	302	362
M 18 x 2,5	43000	86000	121000	145000	142	283	398	478
M 18 x 1,5	48400	96800	136000	163000	154	308	434	520
M 20 x 2,5	54900	110000	154000	185000	200	400	562	674
M 20 x 1,5	60900	122000	171000	206000	216	431	607	728
M 22 x 2,5	67900	136000	191000	229000	266	532	748	897
M 22 x 1,5	74600	149000	210000	252000	286	571	803	964
M 24 x 3	79100	158000	222000	267000	345	691	971	1170
M 24 x 2	86000	172000	242000	290000	365	731	1030	1230
M 27 x 3	103000	206000	289000	347000	505	1010	1420	1700
M 27 x 2	111000	222000	312000	375000	534	1070	1500	1800
M 30 x 3,5	126000	251000	353000	424000	686	1370	1930	2310
M 30 x 2	139000	278000	391000	469000	738	1480	2080	2490

NOTICE

Sensor maximum driving torque: 15 Nm.



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Optional Attachments

INTRODUCTION

This section provides information on the optional interchangeable attachments, especially manufactured for the handlers.
Use only genuine attachments, described in this section, after having read their features thoroughly and understood their use.
To install and remove the attachments, follow the instructions supplied in the "**Operating Instructions**" section.

DANGER

When replacing interchangeable attachments, keep any person clear of the working area.

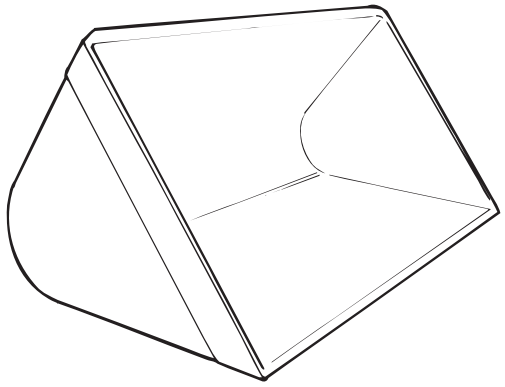
DANGER

Mounting optional attachments, and especially the extension jib, can change the centre of gravity of the machine. Before handling a load, check its weight and compare it with the values on the load charts. The weight of the used attachment must always be deducted from the rated payload.

Optional Attachments

800 LITRES SHOVEL

(code 59.0201.9001)



TECHNICAL DATA	
Capacity	800 litres
Width	2436 mm
Length	1140 mm
Height	1171 mm
Weight	510 kg

CAUTION

Attachment suitable for moving loose material. Do not use for digging operations.

Application

Quick coupling attachment for moving soil, sand, debris, cereals, etc.

Safety

Strictly obey the general safety precautions given in section "**Safety**".

Operation

To load/unload the material, operate the rotation lever of the attachment holding plate.

CAUTION

When using a shovel, load the material only when the boom is completely retracted and push against the heap with straight wheels.

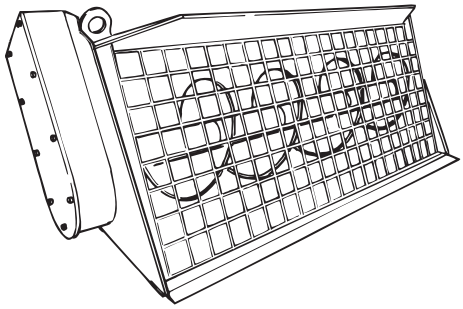
Maintenance

Visually check the shovel for damage before using it.

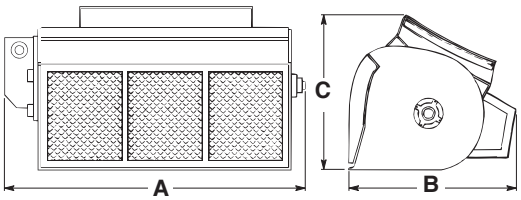
Optional Attachments

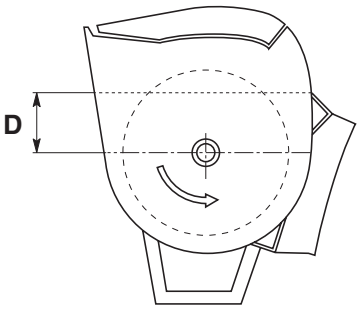
500 LT MIXING BUCKET

(code 59.0401.2001)



TECHNICAL DATA	
Width (A)	1850 mm
Length (B)	1080 mm
Height (C)	1120 mm
Empty Weight	780 kg
All Up Weight	2000 kg
Output Capacity	500 lt
Total capacity	785 lt
Output level from shaft centre (D)	140 mm





Application
Quick coupling attachment for mixing and distributing concrete.

Safety
Strictly obey the general safety precautions given in section "**Safety**".

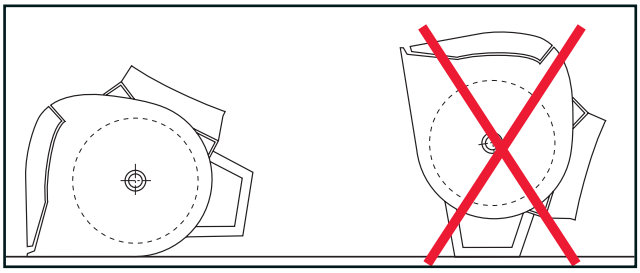
Operation
To load/unload the material, operate the rotation lever of the attachment holding plate.

Maintenance
Visually check the bucket for damage before using it. Wash thoroughly with water after use or in case of prolonged inactivity to prevent the mix or residues from hardening.
Check for oil leaks from hoses and connectors.
Carefully protect the quick connectors once disconnected to prevent impurities from entering the circuit.

WARNING

Before any maintenance, rest the bucket on the ground, stop the machine, remove the starter key and lock the cab door to prevent anybody from gaining access to the control panel.

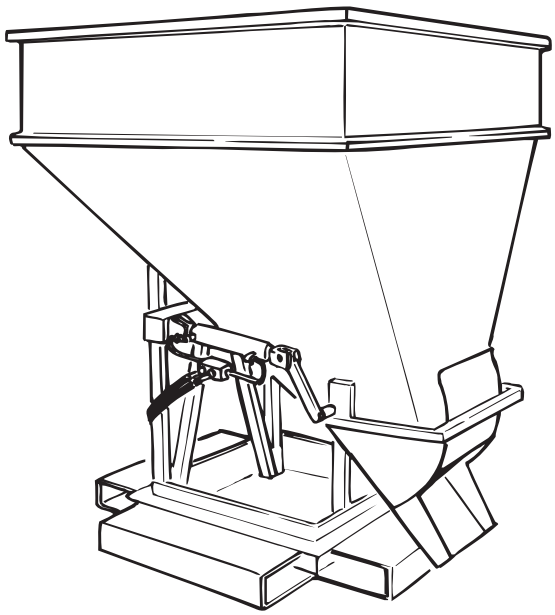
REST POSITION



Optional Attachments

500 LITRES CONCRETE SKIP

(code 59.0400.0000 _ Manual Version)
(code 59.0400.1000 _ Hydraulic Version)



TECHNICAL DATA	
Capacity	500 litres
Width	1200 mm
Length	1200 mm
Height	1270 mm
Weight	220 kg
SAE Capacity	0.5 m^3

Application
Attachment coupled to the standard forks of the handler and fixed by means of the special chains with shackle provided.

Safety
Strictly obey the general safety precautions given in section "**Safety**".

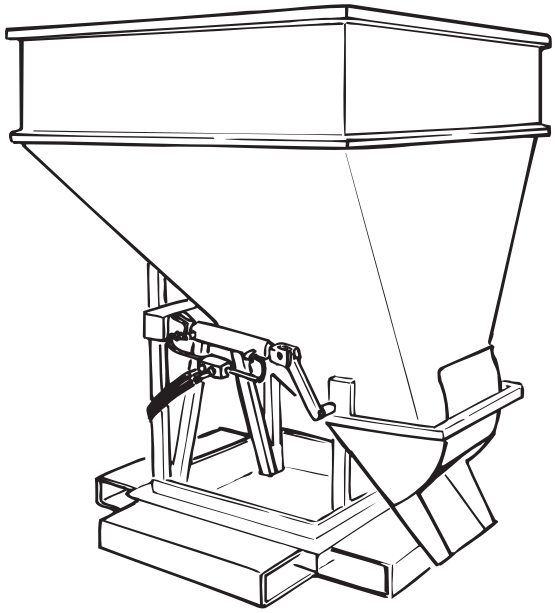
Operation
Fork the skip bearing in mind the side where the product will be unloaded.
Secure the skip to the forks using the chains provided.
To unload the concrete:
- *Manual Version:* manually operate the gate opening lever
- *Hydraulic Version:* operate the attachment locking lever after connecting the feeding lines of the new attachment to the quick couplings

Maintenance
Visually check the skip for damage before using it.
Wash with water after use or in case of prolonged inactivity to prevent the mix or residues from hardening.
Check for oil leaks from hoses and connectors.
Carefully protect the quick connectors once disconnected to prevent impurities from entering the circuit.
Check the chains after every use and replace them if worn or damaged.

Optional Attachments

800 LITRES CONCRETE SKIP

(code 59.0400.2000 _ Manual Version)
(code 59.0400.3000 _ Hydraulic Version)



TECHNICAL DATA	
Capacity	800 litres
Width	1200 mm
Length	1200 mm
Height	1520 mm
Weight	260 kg
SAE Capacity	0.8 m^3

Application
Attachment coupled to the standard forks of the handler and fixed by means of the special chains with shackle provided.

Safety
Strictly obey the general safety precautions given in section "**Safety**".

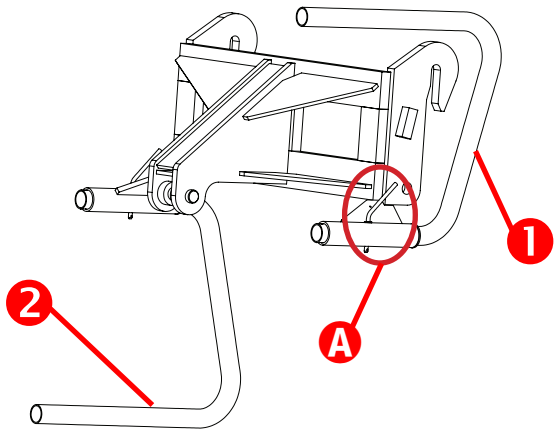
Operation
Fork the skip bearing in mind the side where the product will be unloaded.
Secure the skip to the forks using the chains provided.
To unload the concrete:
- *Manual Version:* manually operate the gate opening lever
- *Hydraulic Version:* operate the attachment locking lever after connecting the feeding lines of the new attachment to the quick couplings

Maintenance
Visually check the skip for damage before using it.
Wash with water after use or in case of prolonged inactivity to prevent the mix or residues from hardening.
Check for oil leaks from hoses and connectors.
Carefully protect the quick connectors once disconnected to prevent impurities from entering the circuit.
Check the chains after every use and replace them if worn or damaged.

Optional Attachments

FIXED HOOK ON PLATE

(code 59.0700.9001)



TECHNICAL DATA	
Payload	4000 kg
Width	1118 mm
Length	702 mm
Height (in working position **1**)	654 mm
Height (in resting position **2**)	1123 mm
Weight	155 kg

Make sure this attachment can be used in the destination country of the machine.
Application must be submitted directly by the user.

Application
Attachment for lifting loads by means of special slings.

Safety
Strictly obey the general safety precautions given in section "Safety".
Do not oscillate the load.
Do not drag hooked loads.
Lift the load before extending the boom.

Operation
- Fork the hook and hold it in position by means of the attachment locking system (mechanical or hydraulic).
- Set the attachment supports in working position **1**, using the dedicated pins **A**.
- All loads must be bridled with special textile slings or chains in compliance with all pertinent regulations.
- To handle the load, raise and rotate the telescopic boom of the handler.
- To unload the attachment, set the supports in resting position **2**, and then carefully withdraw the boom by operating retraction control and, if necessary, raise or lower the boom as it comes out.

Maintenance
Visually check the hook for damage before using it.
Check the safety catch is in good working order.

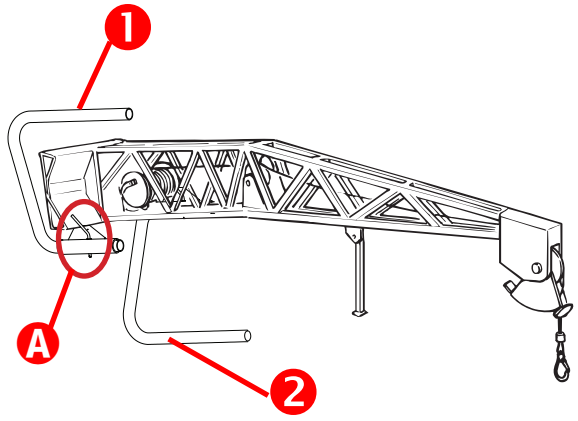
CAUTION

The fixed hook has been designed to support the load declared beside. The max payload corresponds to the nominal capacity rating of the handler on which it is installed and is indicated on the load charts supplied with the equipment.

Optional Attachments

900 KG EXTENSION JIB

(code 59.0802.3003 _ Mechanical Version)
(code 59.0802.3002 _ Hydraulic Version)



TECHNICAL DATA	
Payload	9000 kg
Width	1114 mm
Length	4189 mm
Height (in working position **1**)	885 mm
Height (in resting position **2**)	1403 mm
Weight	292 kg

Make sure this attachment can be used in the destination country of the machine.
Application must be submitted directly by the user.

Application
Quick-coupling fitted attachment for maintenance interventions at high working heights.

Safety
Strictly obey the general safety precautions given in section "**Safety**".
Never lift wrongly slung loads.
Avoid abrupt acceleration or deceleration.
Avoid load oscillations, and especially do not move the load from the vertical pull line.
Do not pull crosswise and do not tow.

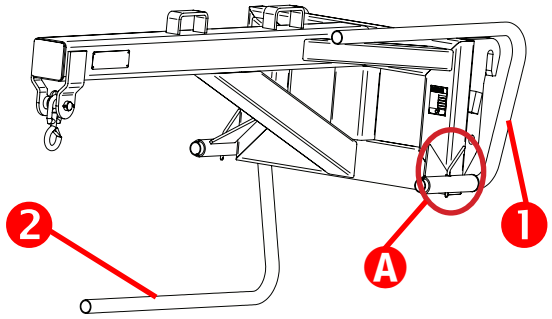
Operation
- Fork the hook and hold it in position by means of the attachment locking system (mechanical or hydraulic).
- Set the attachment supports in working position **1**, using the dedicated pins **A**.
- All loads must be bridled with special textile slings or chains in compliance with all pertinent regulations.
- To handle the load, raise and rotate the telescopic boom of the handler.
- To unload the attachment, set the supports in resting position **2**, and then carefully withdraw the boom by operating retraction control and, if necessary, raise or lower the boom as it comes out.

Maintenance
Visually check the jib for damage before using it.
Check the safety catch is in good working order.
Daily grease the joints using the greasing gun.

Optional Attachments

2000 KG EXTENSION JIB

(code 59.0802.3004)



TECHNICAL DATA	
Payload	2000 kg
Width	1127 mm
Length	2255 mm
Height (in working position **1**)	651 mm
Height (in resting position **2**)	1220 mm
Weight	255 kg

Make sure this attachment can be used in the destination country of the machine.
Application must be submitted directly by the user.

Application
Quick-coupling fitted attachment for maintenance interventions at high working heights.

Safety
Strictly obey the general safety precautions given in section "**Safety**".
Never lift wrongly slung loads.
Avoid abrupt acceleration or deceleration.
Avoid load oscillations, and especially do not move the load from the vertical pull line.
Do not pull crosswise and do not tow.

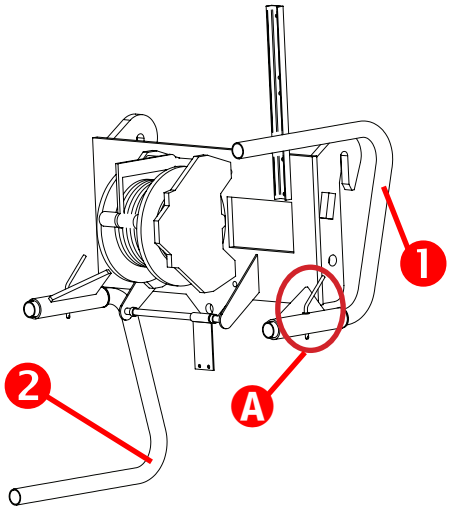
Operation
- Fork the jib and hold it in position by means of the attachment locking system (mechanical or hydraulic).
- Set the attachment supports in working position **1**, using the dedicated pins **A**.
- To change the working height, operate the lever according to the "Quick-Coupling The Attachments" function.
- To unload the attachment, set the supports in resting position **2**, and then carefully withdraw the boom by operating retraction control and, if necessary, raise or lower the boom as it comes out.

Maintenance
Visually check the jib for damage before using it.
Check the safety catch is in good working order.
Daily grease the joints using the greasing gun.

Optional Attachments

3000 KG HYDRAULIC WINCH

(code 59.0901.9002)



TECHNICAL DATA	
Payload	2000 kg
Width	672 mm
Length	1118 mm
Height (in working position **1**)	1147 mm
Height (in resting position **2**)	1588 mm
Weight	280 kg

Make sure this attachment can be used in the destination country of the machine.
Application must be submitted directly by the user.

Application
Quick-coupling fitted attachment for lifting loads by means of special slings.

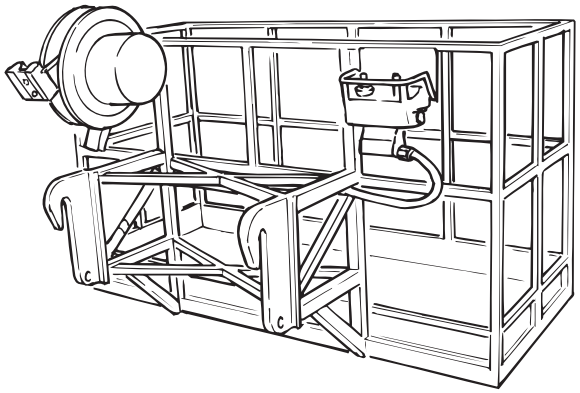
Safety
Strictly obey the general safety precautions given in section "Safety".
Do not oscillate the load.
Do not drag hooked loads.
Lift the load before extending the boom.

Operation
- Fork the winch and hold it in position by means of the attachment locking system (mechanical or hydraulic).
- Set the attachment supports in working position **1**, using the dedicated pins **A**.
- To change the working height, operate the lever according to the "Quick-Coupling The Attachments" function.
- To unload the attachment, set the supports in resting position **2**, and then carefully withdraw the boom by operating retraction control and, if necessary, raise or lower the boom as it comes out.

Maintenance
Visually check the hook for damage before using it.
Check the safety catch is in good working order.

Optional Attachments

MAN-PLATFORM 3P-700 REM4400



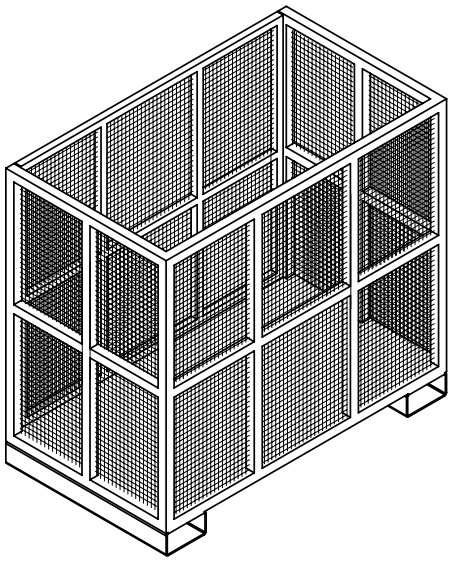
For the use of this attachment, read the specific manual.

TECHNICAL DATA	
Payload	700 kg
Weight	880 kg
Width	2105 mm
Length	2370 (up to 4495) mm
Height	1600 mm

Optional Attachments

BASKET FOR BRICKS

(code 59.0400.7000)



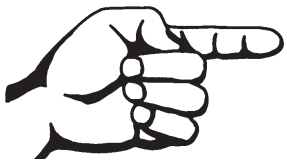
Application
Attachment used to handle construction manufactured products, to be fixed to the standard forks of the handler and locked in position with the chains with shackles supplied.

Safety
Strictly obey the general safety precautions given in section **"Safety"**.

Operation
Fork the basket from the rear side being careful that the door that can be opened is at the front.
Secure the basket to the forks using the chains supplied.

Maintenance
Visually check the attachment for damage before using it.

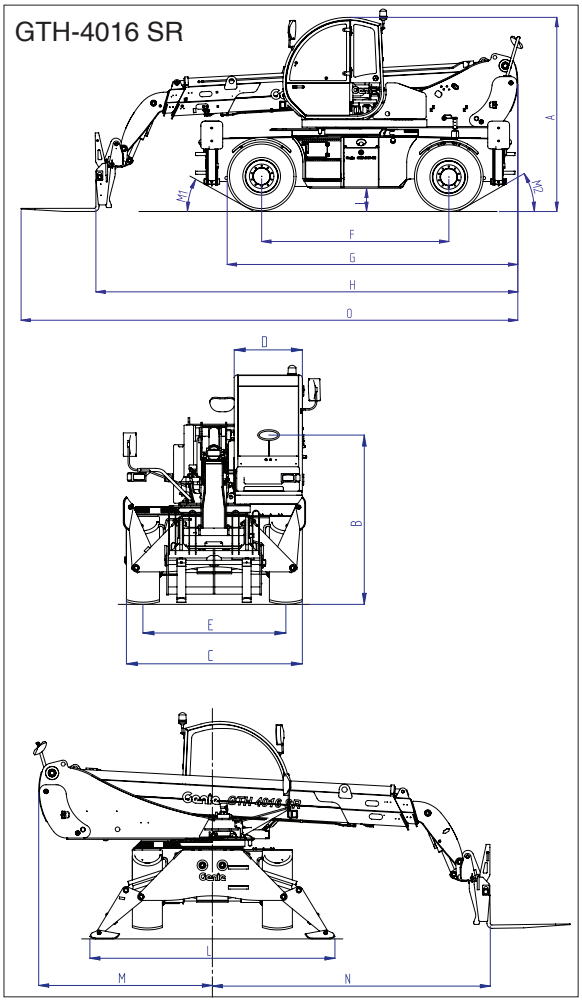
TECHNICAL DATA	
Width	800 mm
Length	1100mm
Height	1150 mm



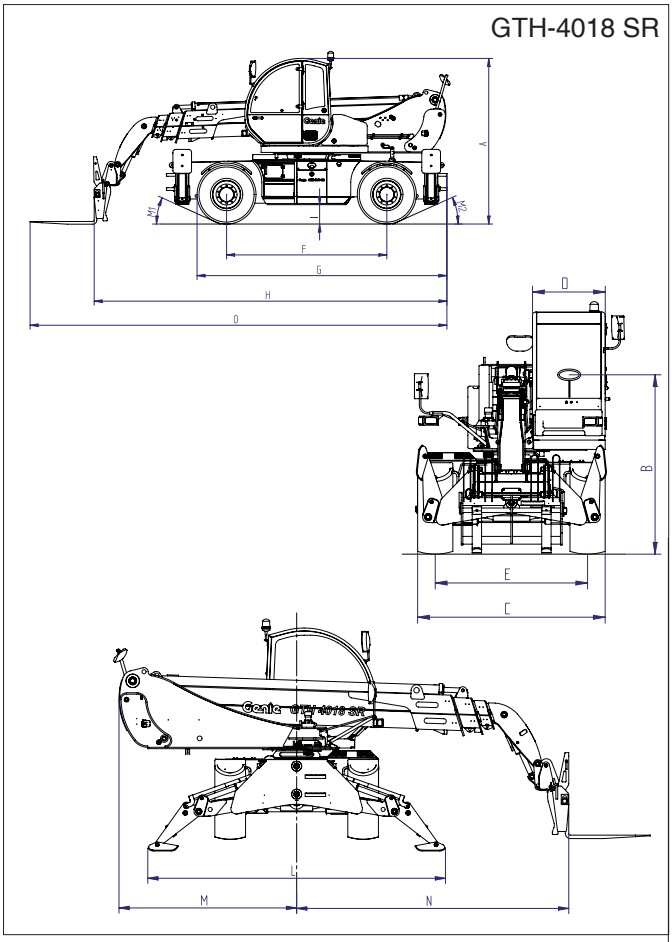
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Specifications

GTH-4016 SR



GTH-4018 SR



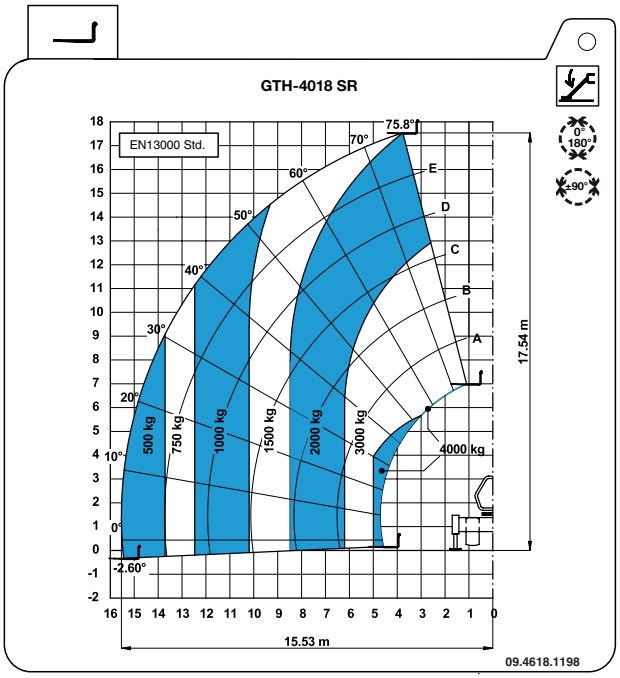
	GTH-4016 SR	GTH 4018 SR
■ MAIN DIMENSIONS		
A Overall height .....mm	2990	2990
B Height to the steering wheel .....mm	2220	2220
C Overall width .....mm	2400	2400
D Inside cab width .....mm	930	930
E Track .....mm	1950	1950
F Wheel-base .....mm	3000	3000
G Length to the front tyres .....mm	4660	4675
H Length to the fork holding plate .....mm	6760	6600
I Ground clearance, center .....mm	345	345
L Max width with extended outriggers .....mm	3600	4400
M Side rear overhang .....mm	2595	2610
N Front overhang .....mm	4170	3990
O Overall lenght .....mm	7960	7800
• Internal steering radius .....mm		
• External steering radius .....mm		

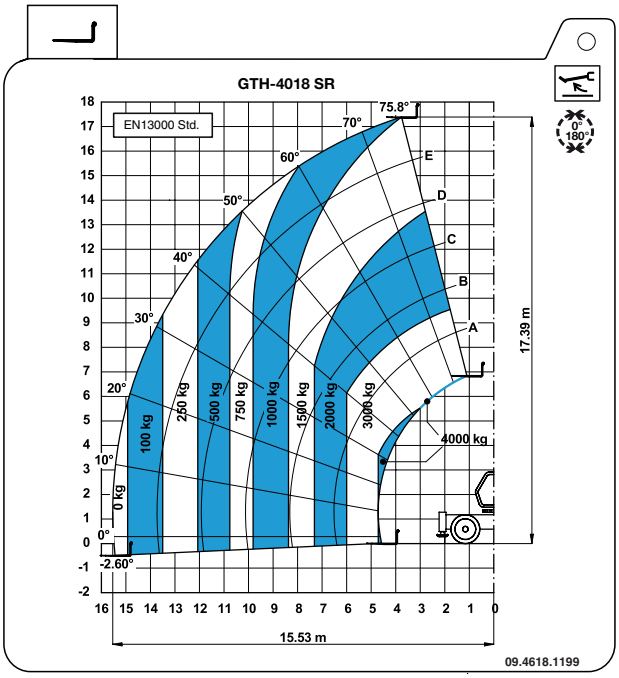
Specifications

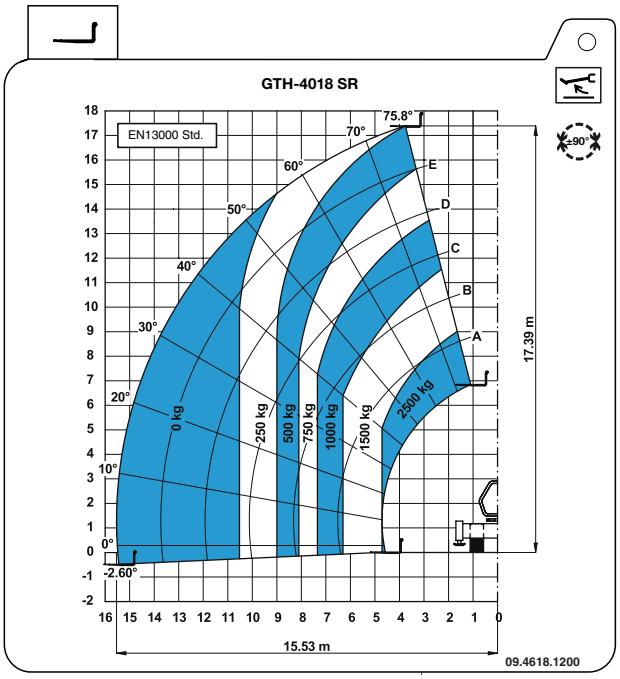
	GTH-4016 SR	GTH 4018 SR
■ LIMITS OF USE		
M1 Obstruction angle	33°	26°
M2 Departure angle	33°	26°
• Min/max ambient temperature .....°C	-20°/+40°	-20°/+40°
■ WEIGHT		
• Weight in working order .....kg	12.900	14.000
■ SPEED		
• Max travel speed (max load) ..... km/h	5	5
• Max travel speed (with fork) .....km/h	35	35
■ PAYLOAD AND REACH		
• Lifting height (max) .....mm	15420	17540
• Reach at maximum height .....mm	3400	3800
• Forward reach (max) .....mm	13350	15530
• Attachment holding plate rotation	138°	138°
• Lifting capacity (max) .....kg	4000	4000
• Lift capacity at max height .....kg	2500	2000
• Lift capacity at max reach .....kg	700	500
■ FORKS (FLOATING TYPE)		
• Dimensions .....mm	1200x120x50	1200x120x50
• Weight .....kg	70	70
• Fork holding frame - class	FEM III	FEM III
■ DIESEL ENGINE		
• Make	PERKINS	PERKINS
• Model/Type	1104 D-44T	1104 D-44T
• Features	Diesel 4 cylinders in line 4 strokes direct injection	Diesel 4 cylinders in line 4 strokes direct injection
• Total displacement cc	4400	4400
• Power .....kW	74.5@2300rpm	74.5@2300rpm
• Torque .....N-m	392 @1400rpm	392 @1400rpm
■ ELECTRICAL SYSTEM		
• Voltage V	12	12
• Battery .....Ah	120	120
■ VIBRATION LEVELS		
• Vibrations (at seat level) .....m/s^2	0.35	0.35

Load Charts

LOAD CHART WITH FORKS GTH-4018 SR

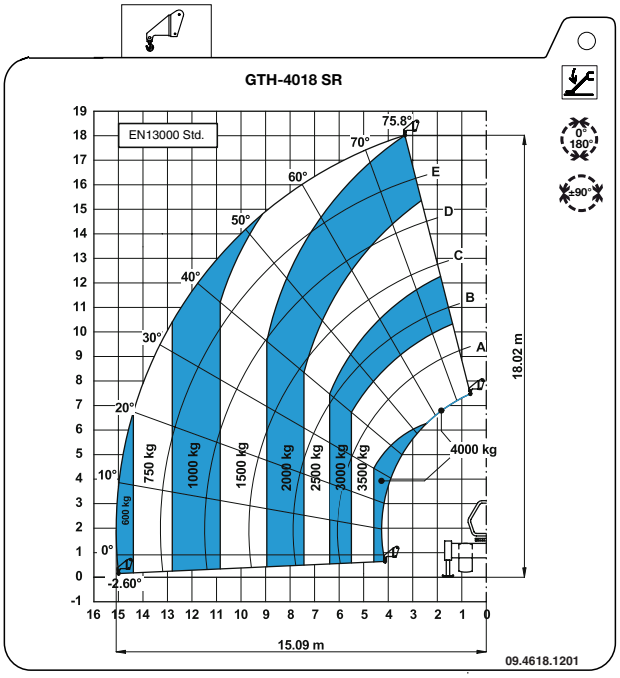


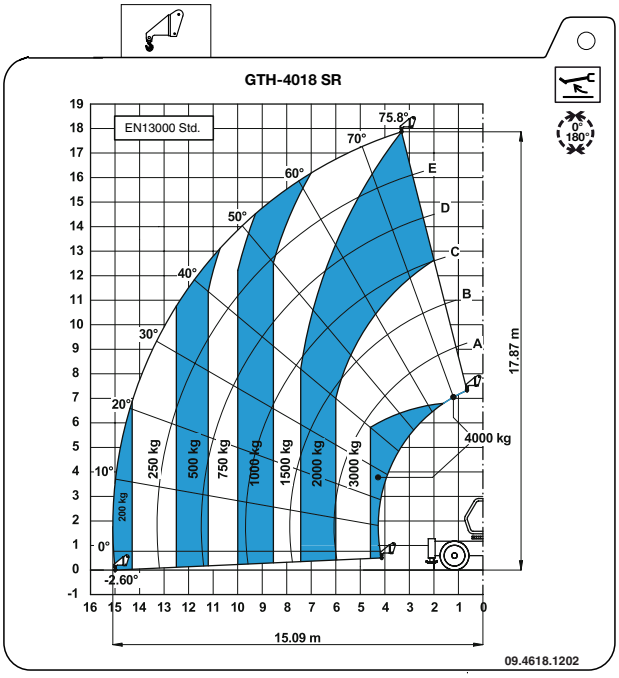


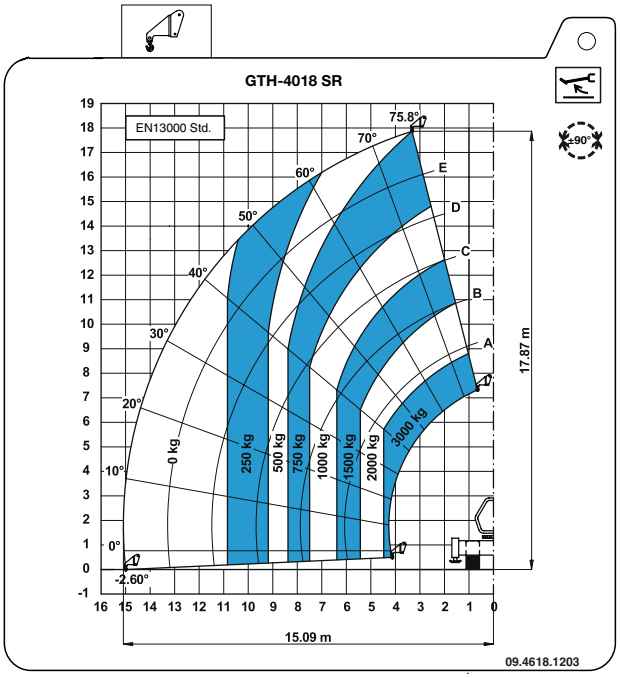


Load Charts

LOAD CHART WITH HOOK GTH-4018 SR

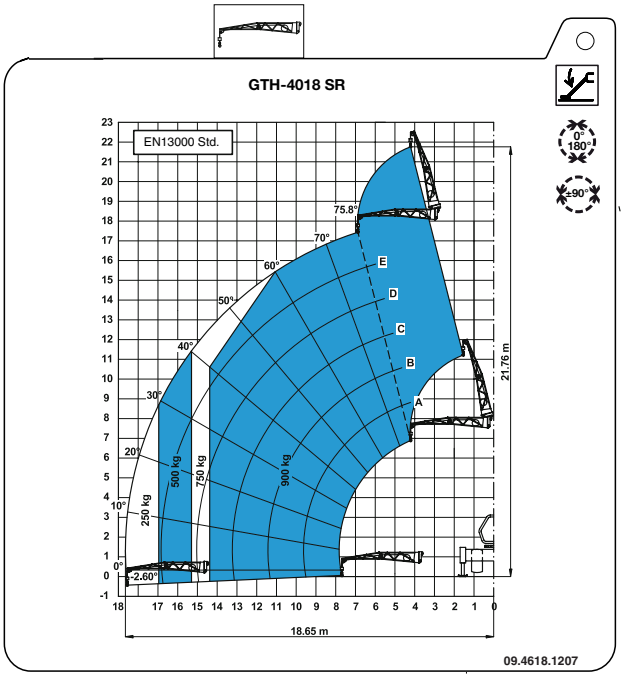


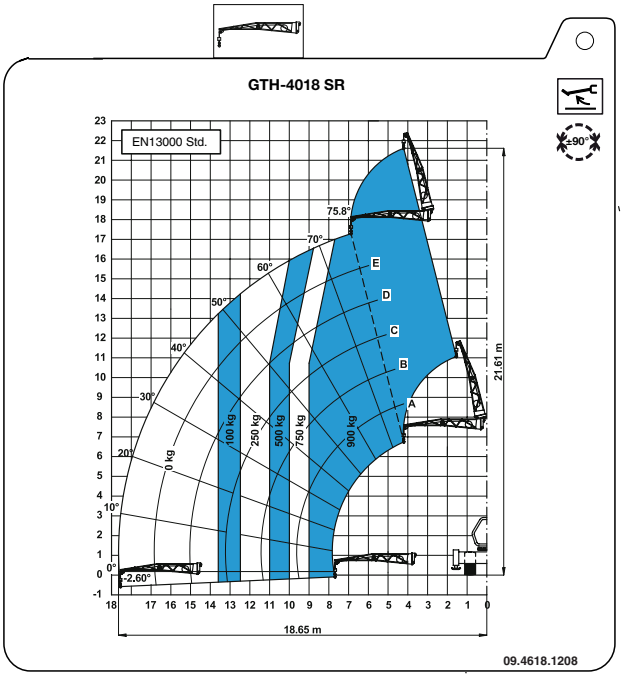


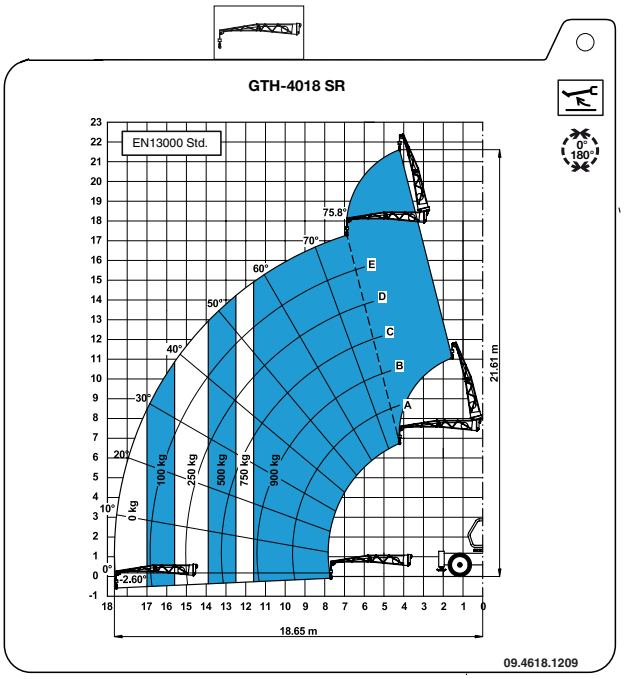


Load Charts

LOAD CHART WITH 900 KG JIB GTH-4018 SR

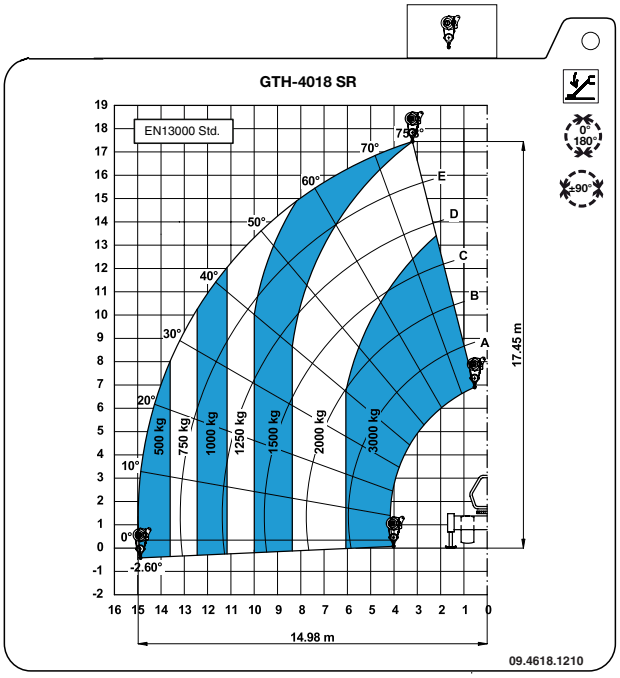


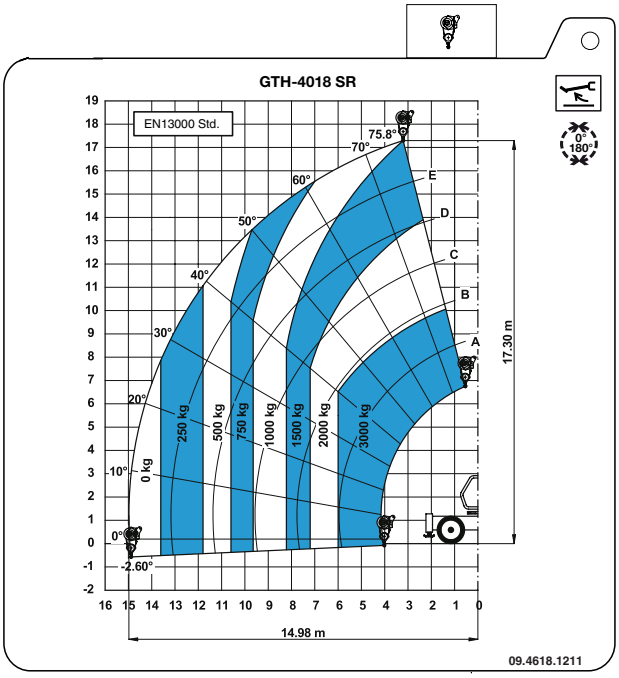


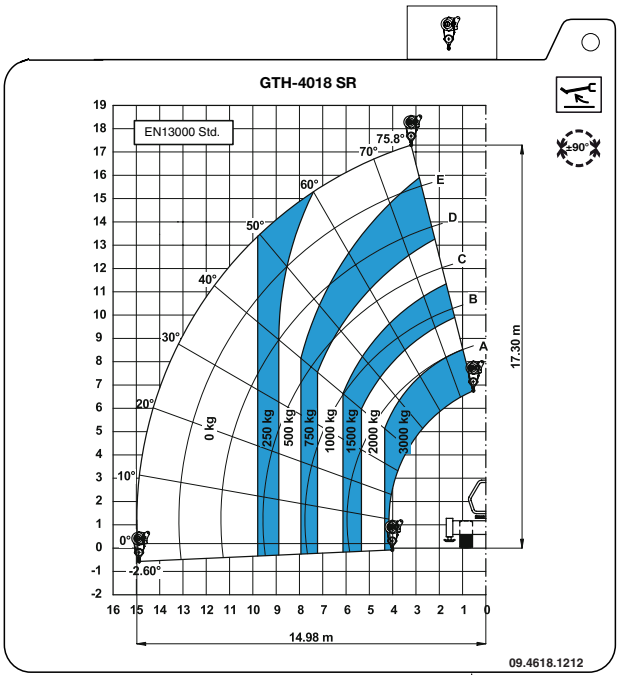


Load Charts

LOAD CHART WITH WINCH GTH-4018 SR

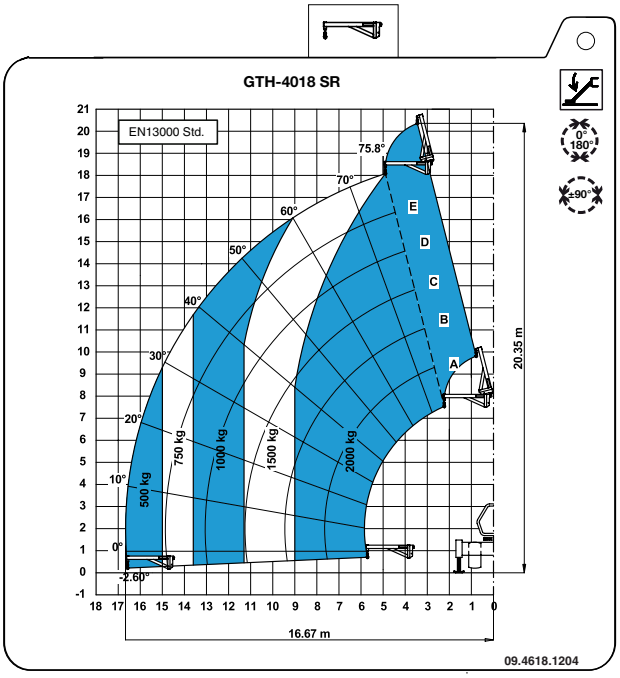


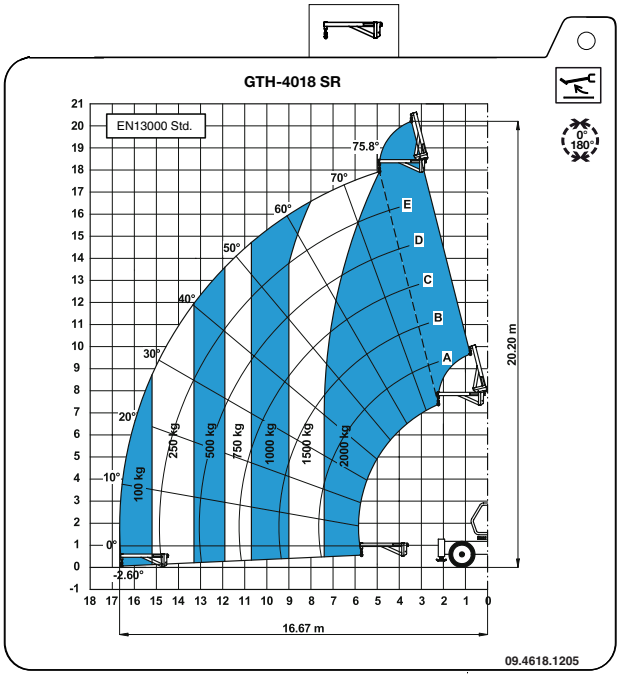


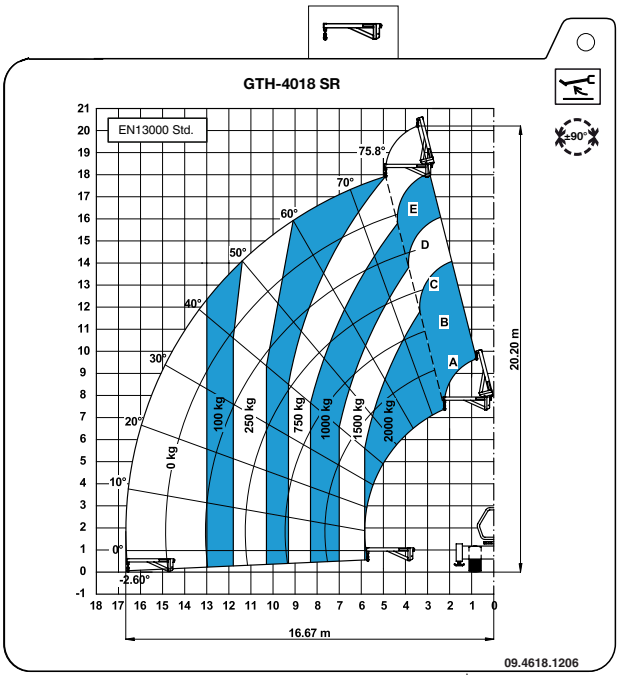


Load Charts

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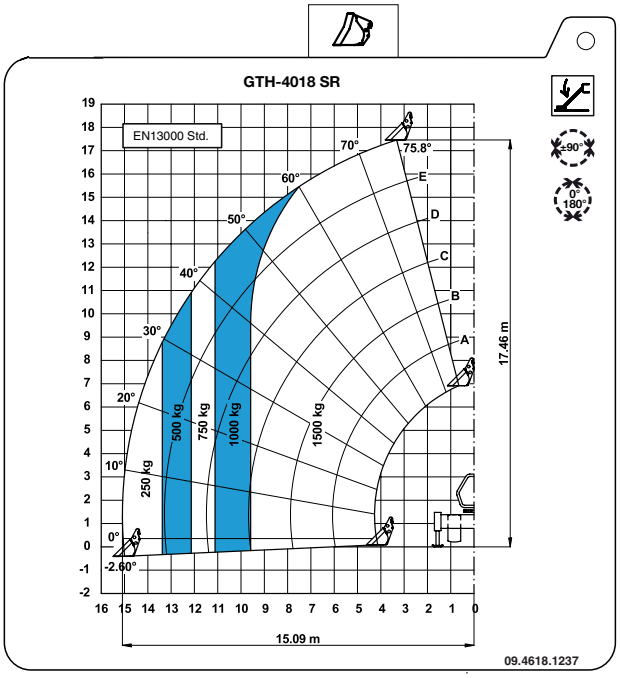


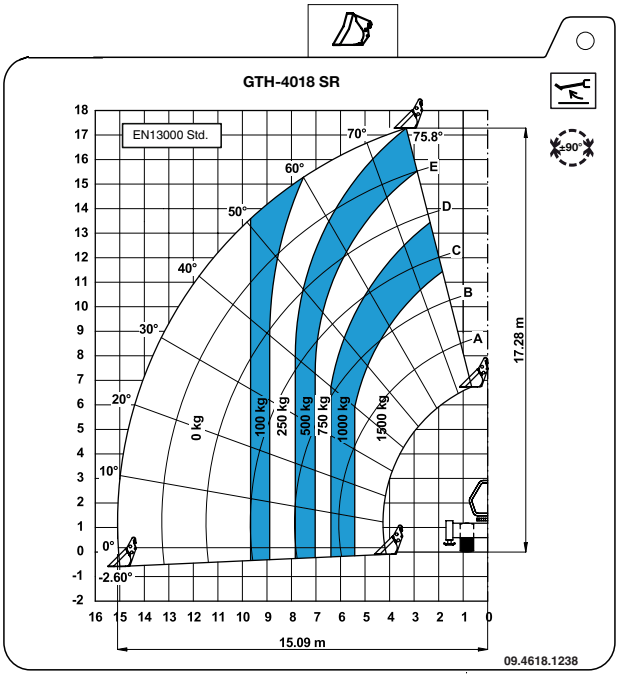


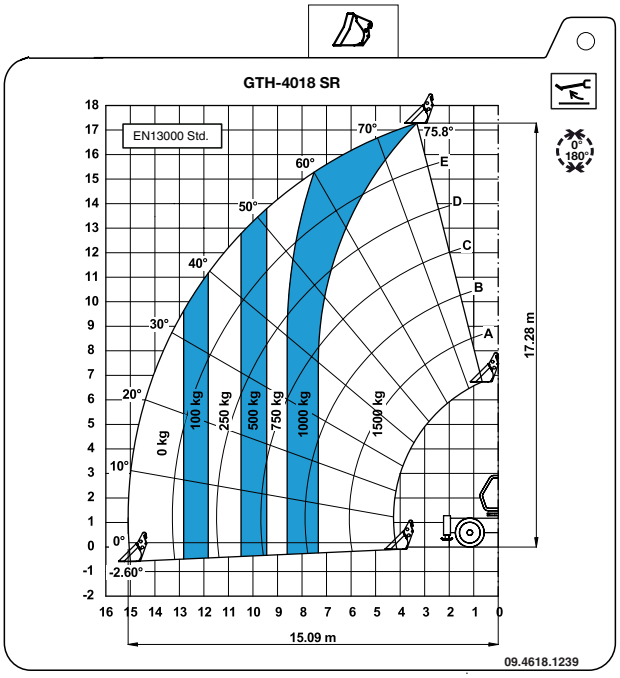


Load Charts

LOAD CHART WITH SHOVEL GTH-4018 SR

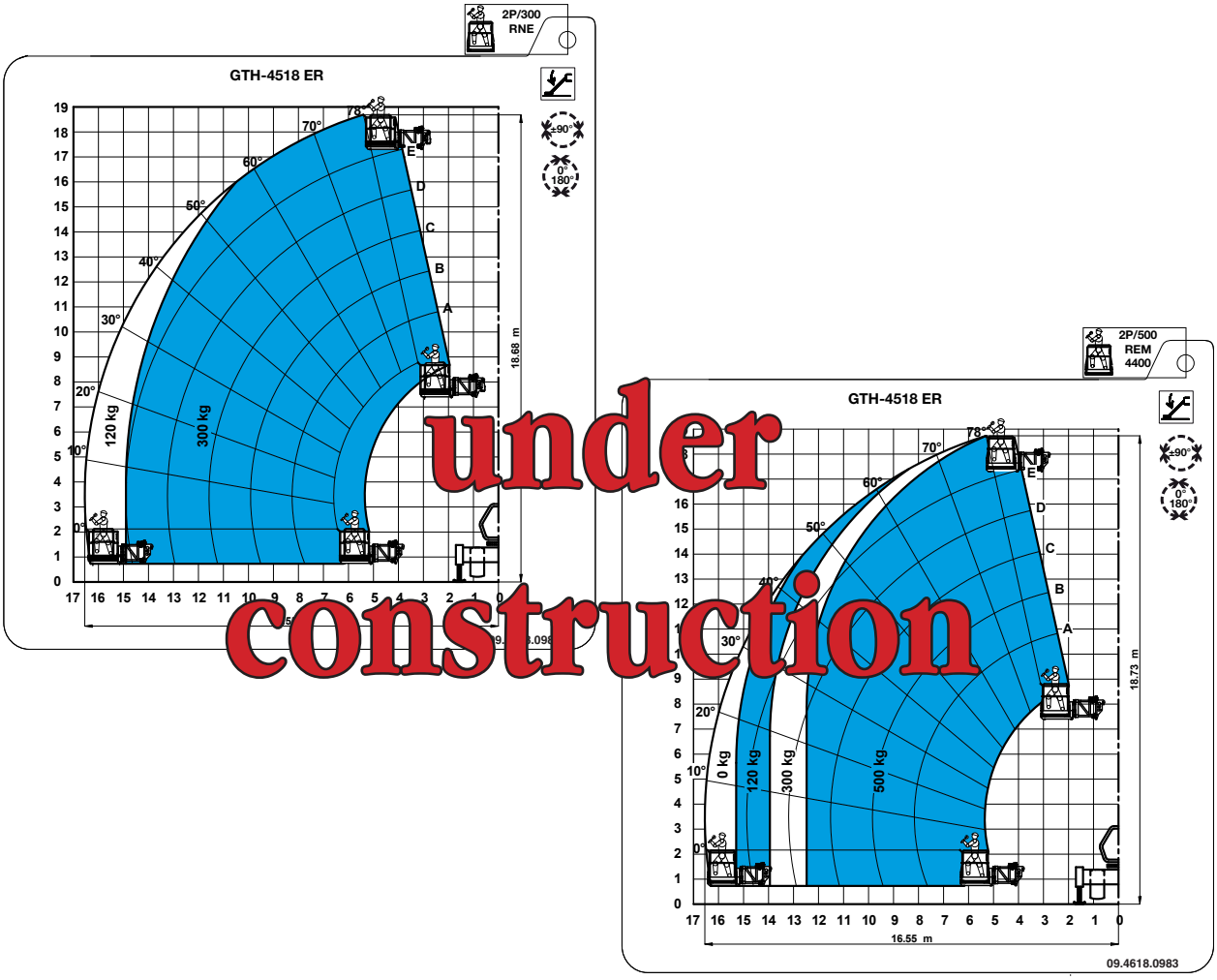






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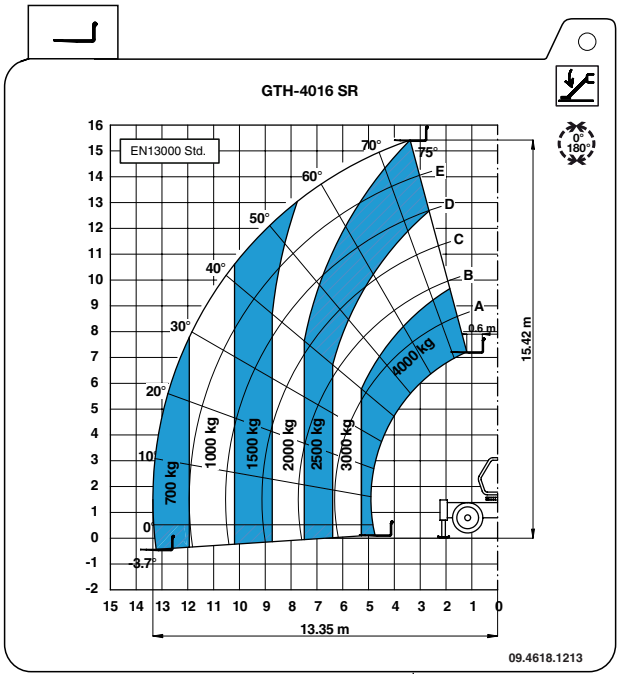
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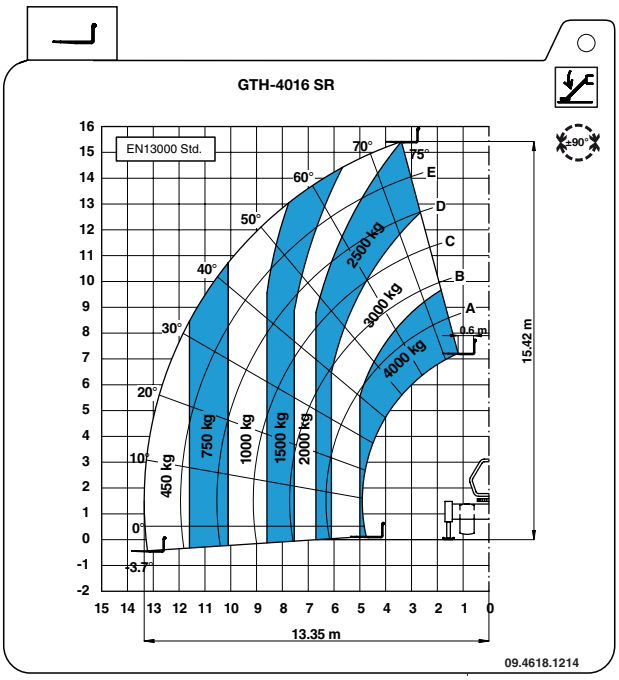


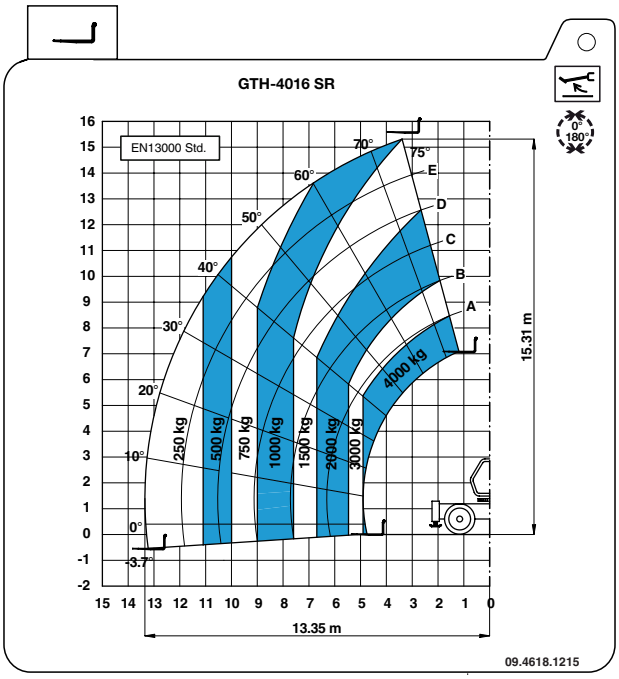
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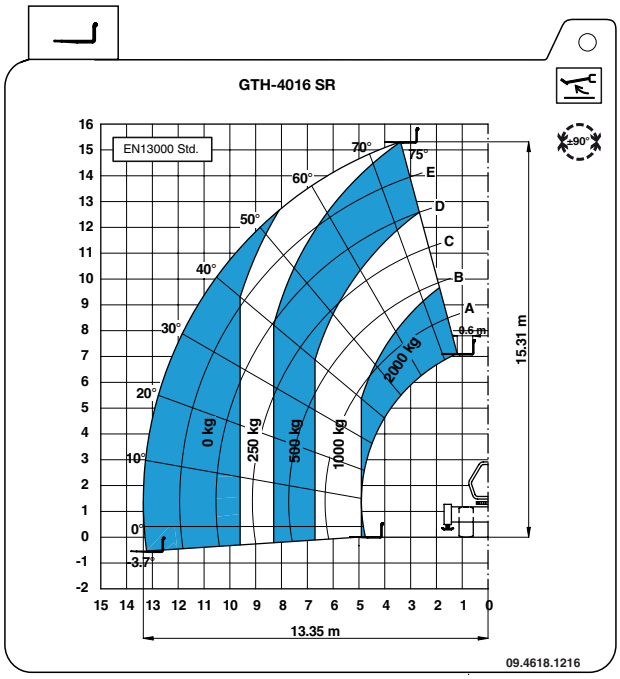
Load Charts

LOAD CHART WITH FORK GTH-4016 SR



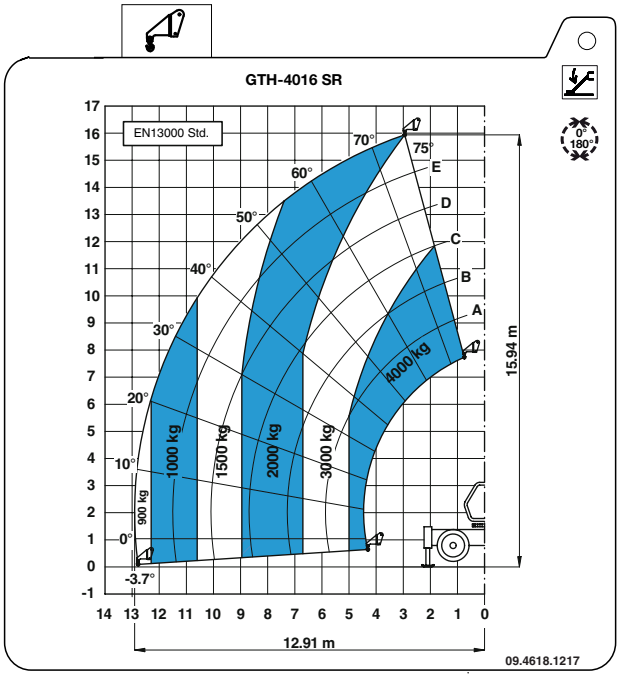


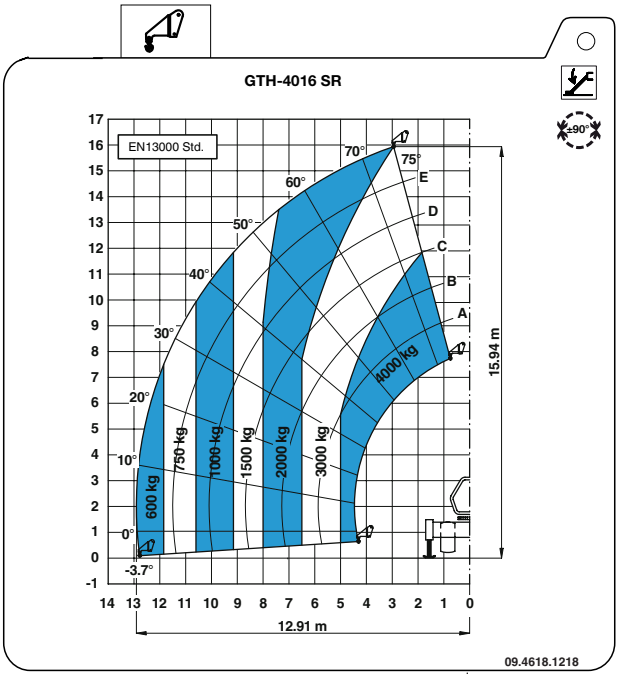


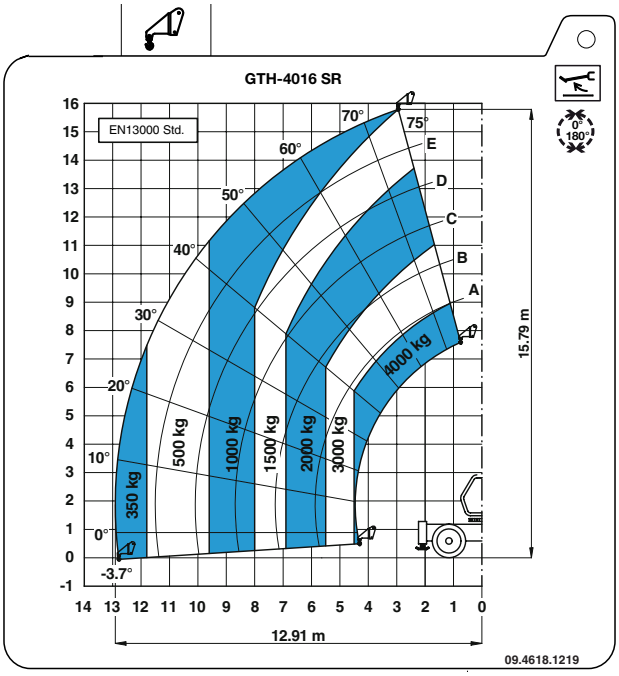


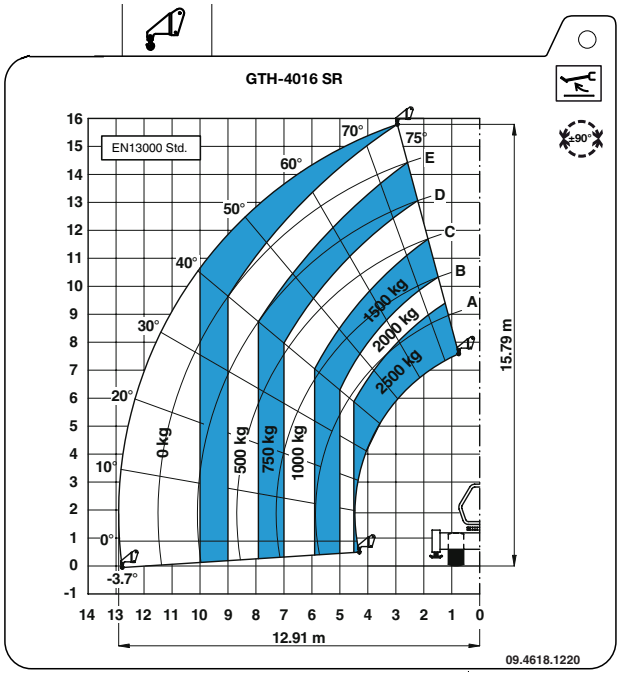
Load Charts

LOAD CHART WITH HOOK GTH-4016 SR



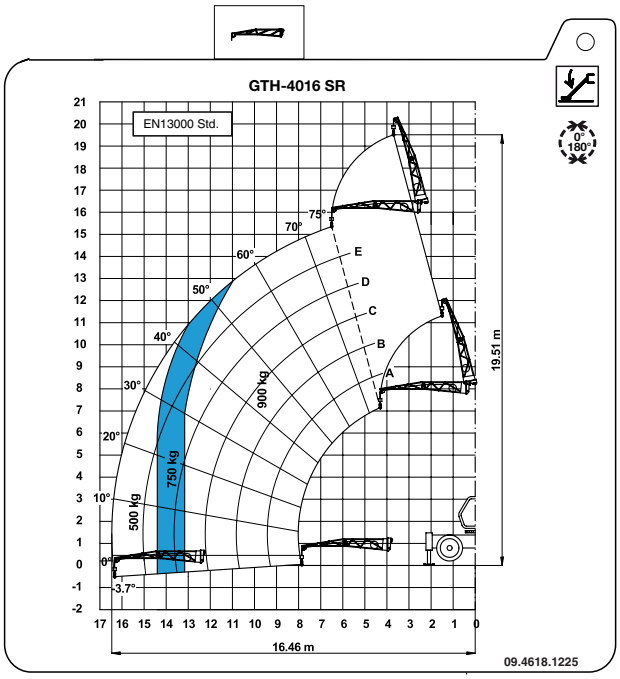


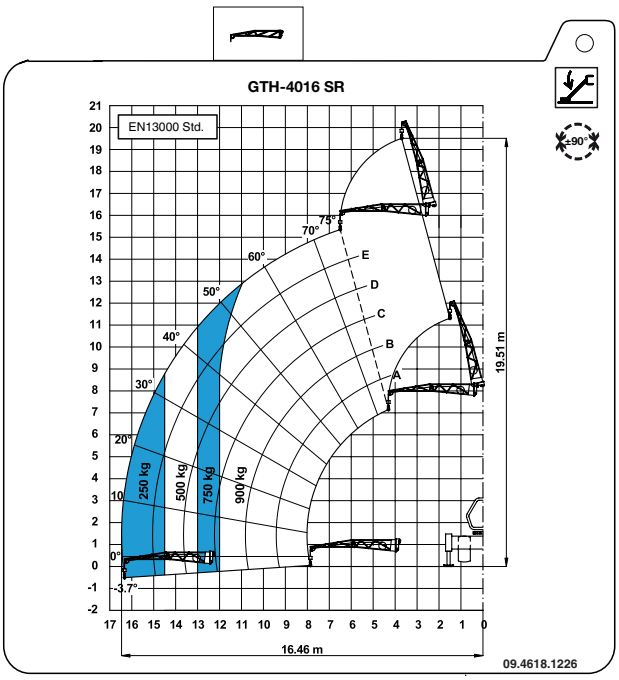


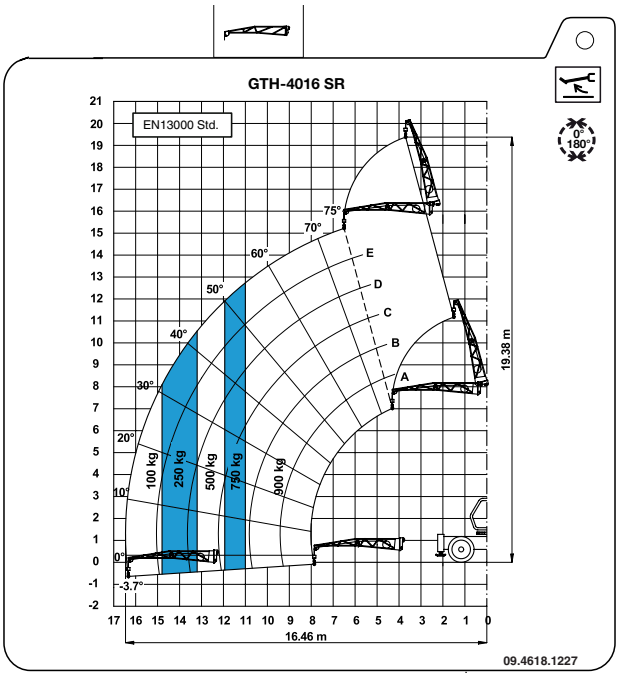


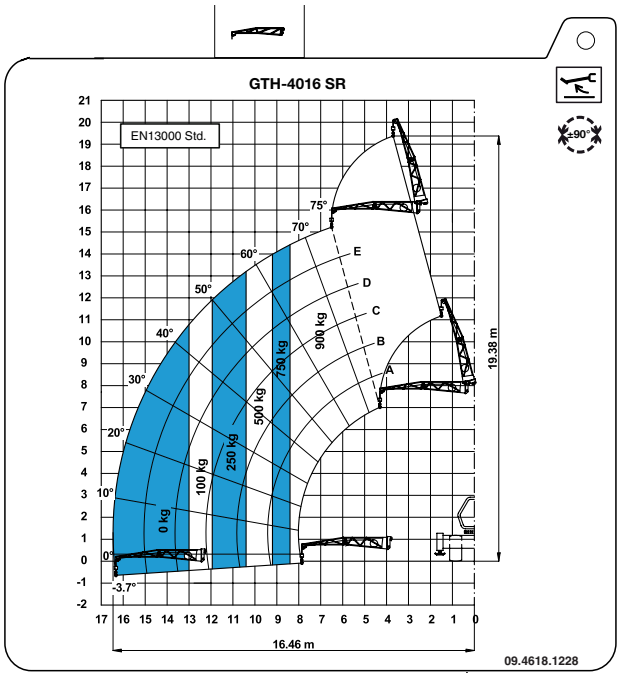
Load Charts

LOAD CHART WITH 900 KG JIB GTH-4016 SR



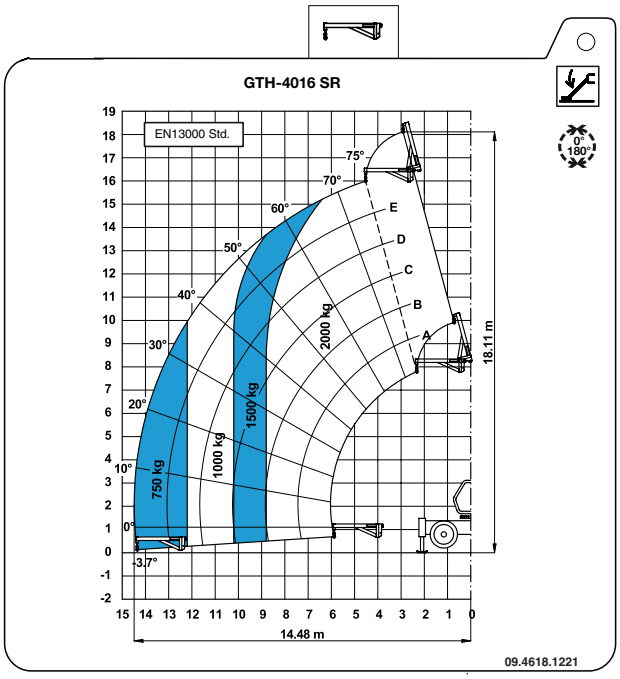


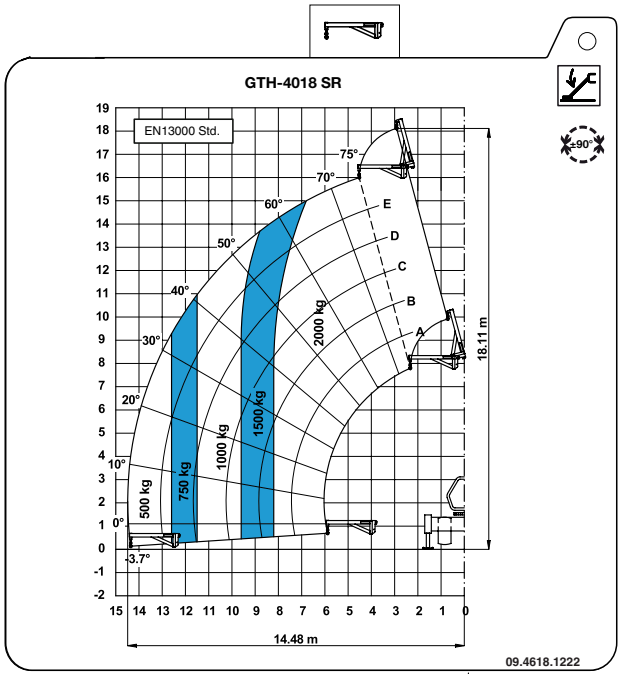


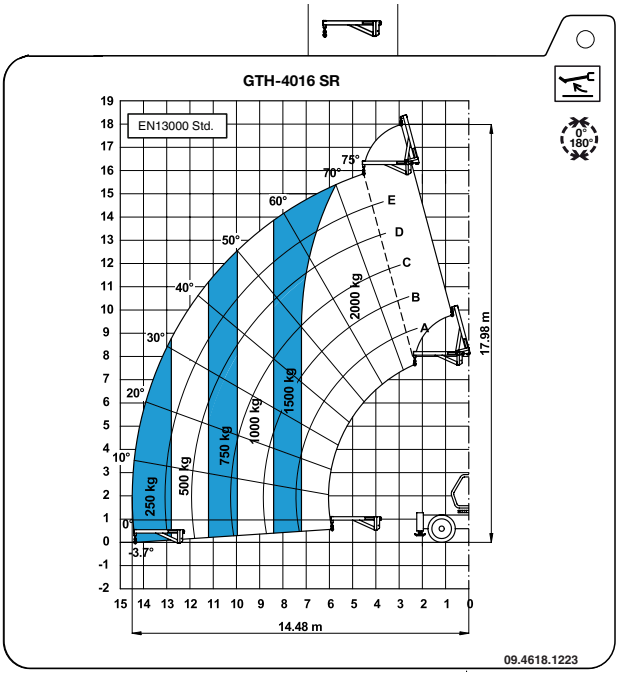


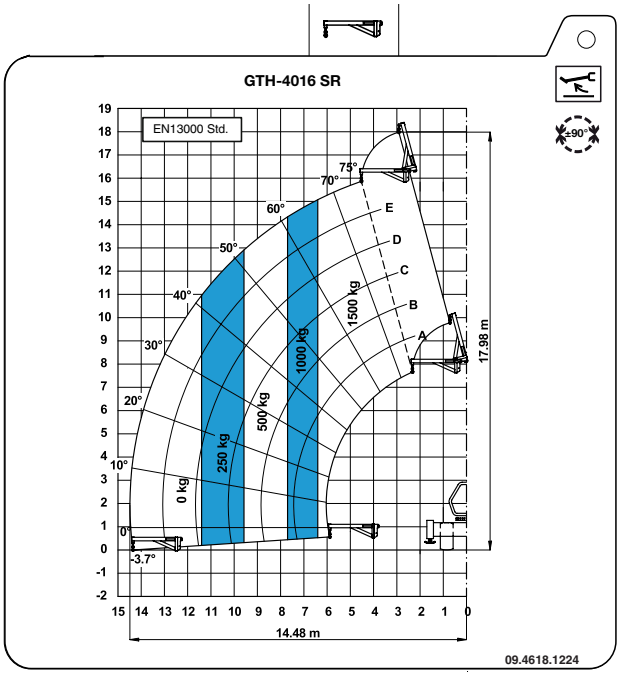
Load Charts

LOAD CHART WITH 2000 KG JIB GTH-4016 SR



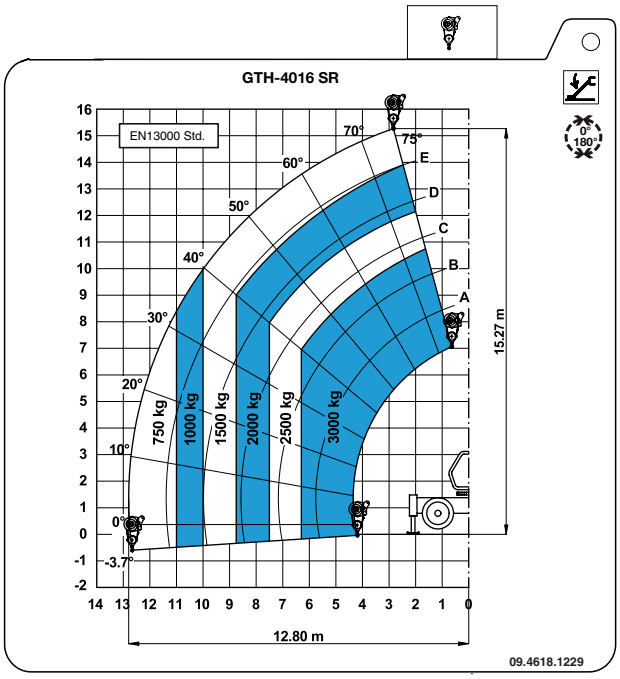


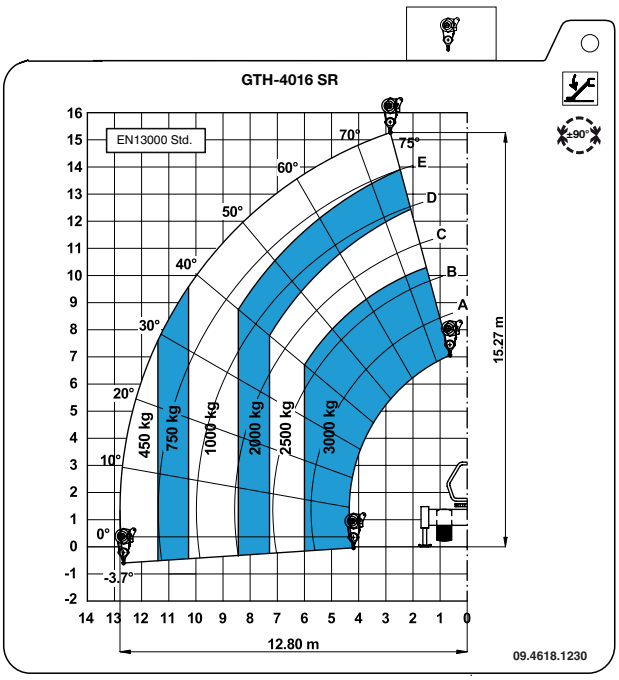


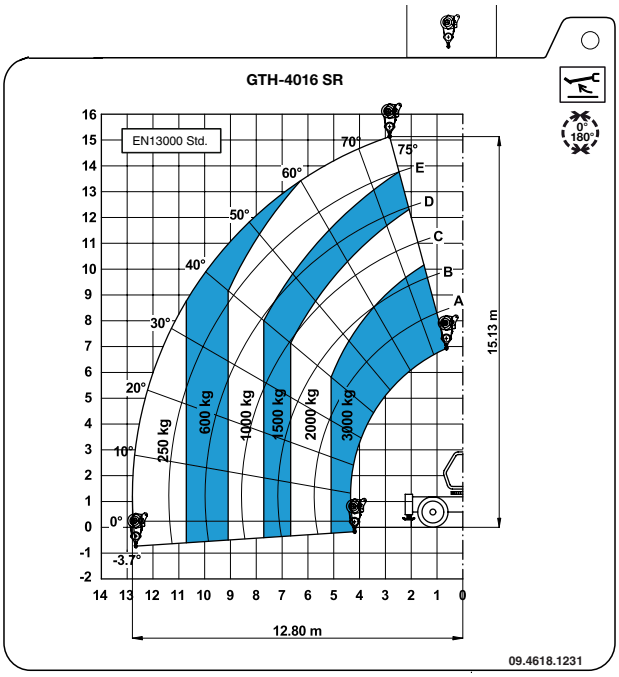


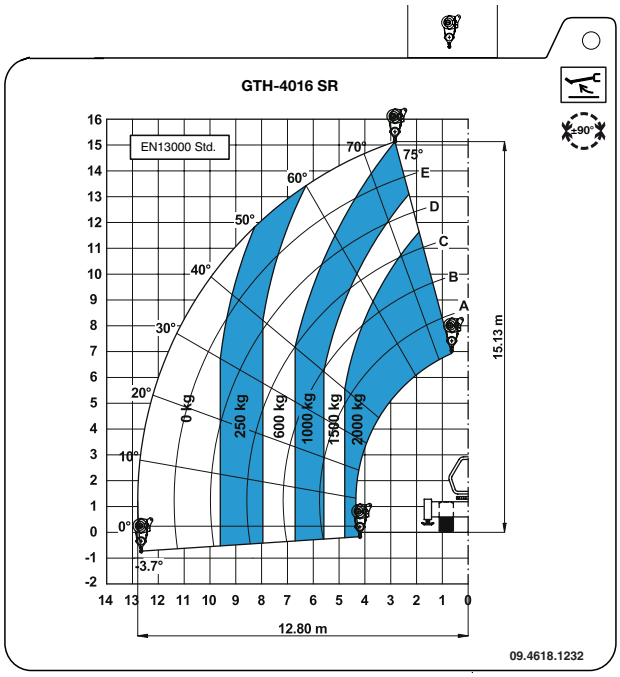
Load Charts

LOAD CHART WITH WINCH GTH-4016 SR



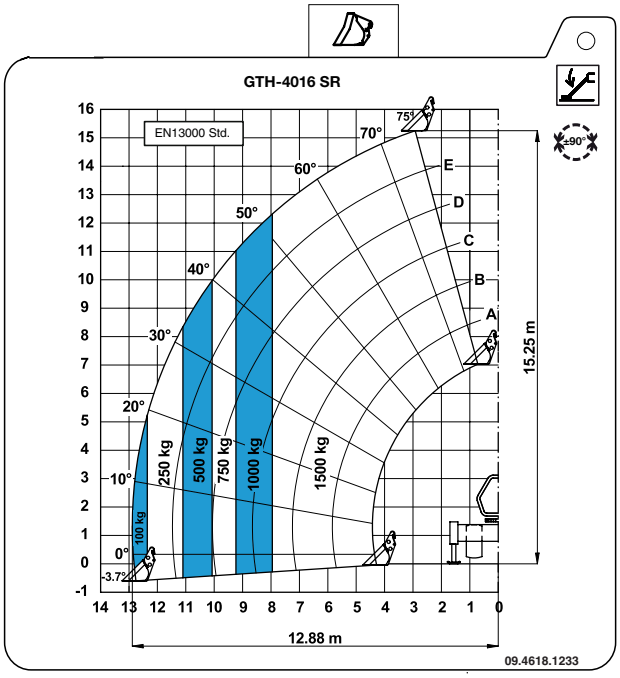


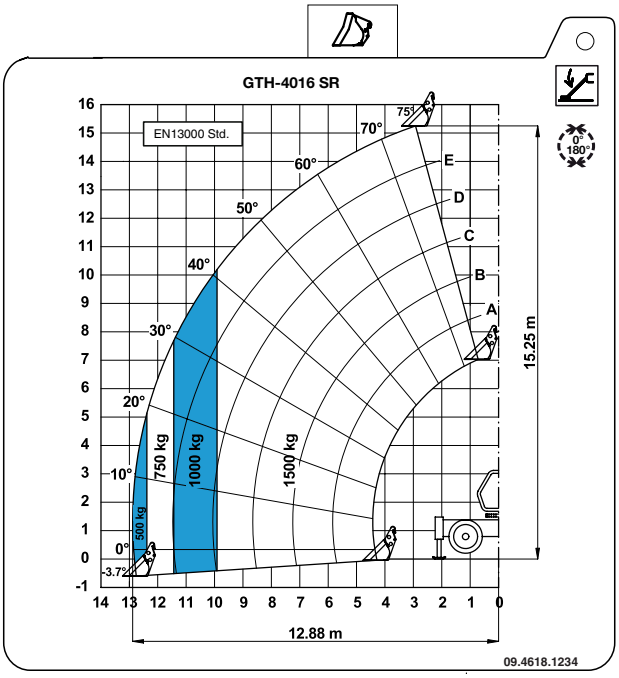


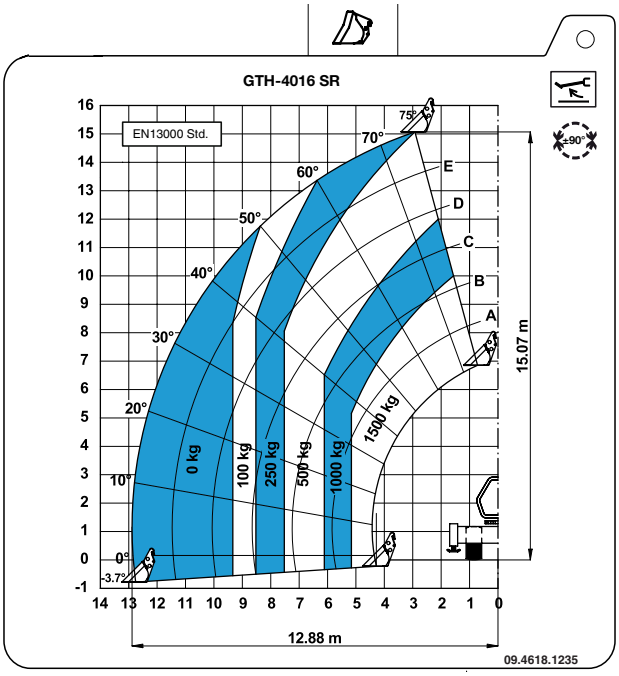


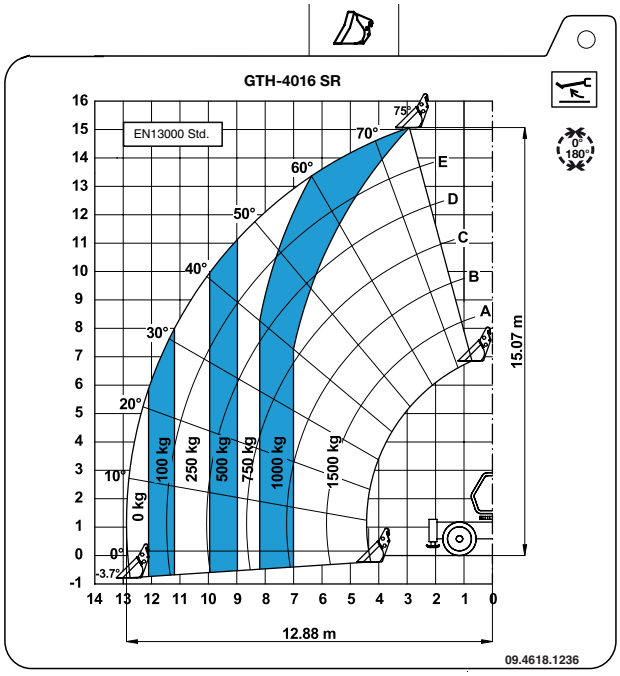
Load Charts

LOAD CHART WITH SHOVEL GTH-4016 SR



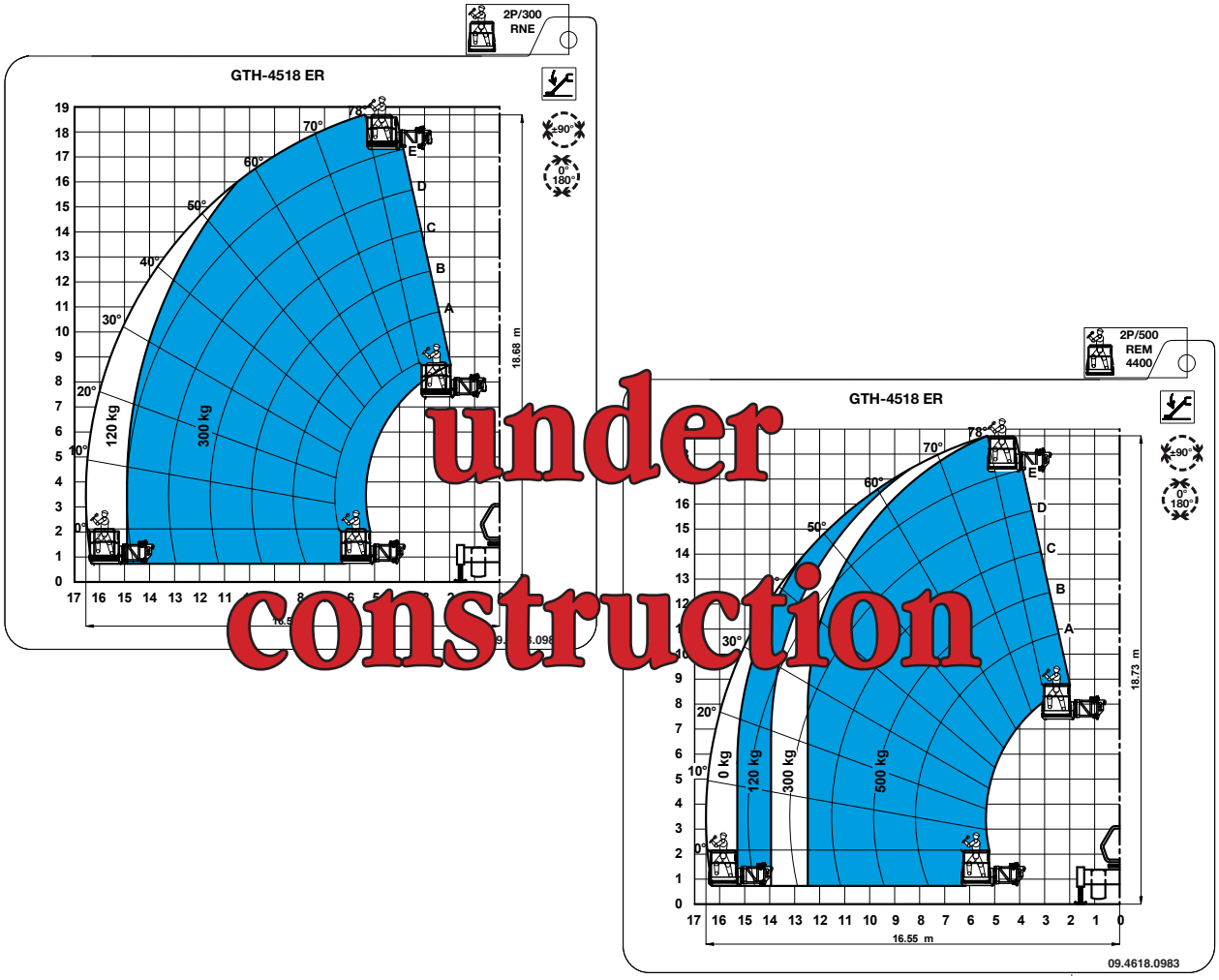






Load Charts

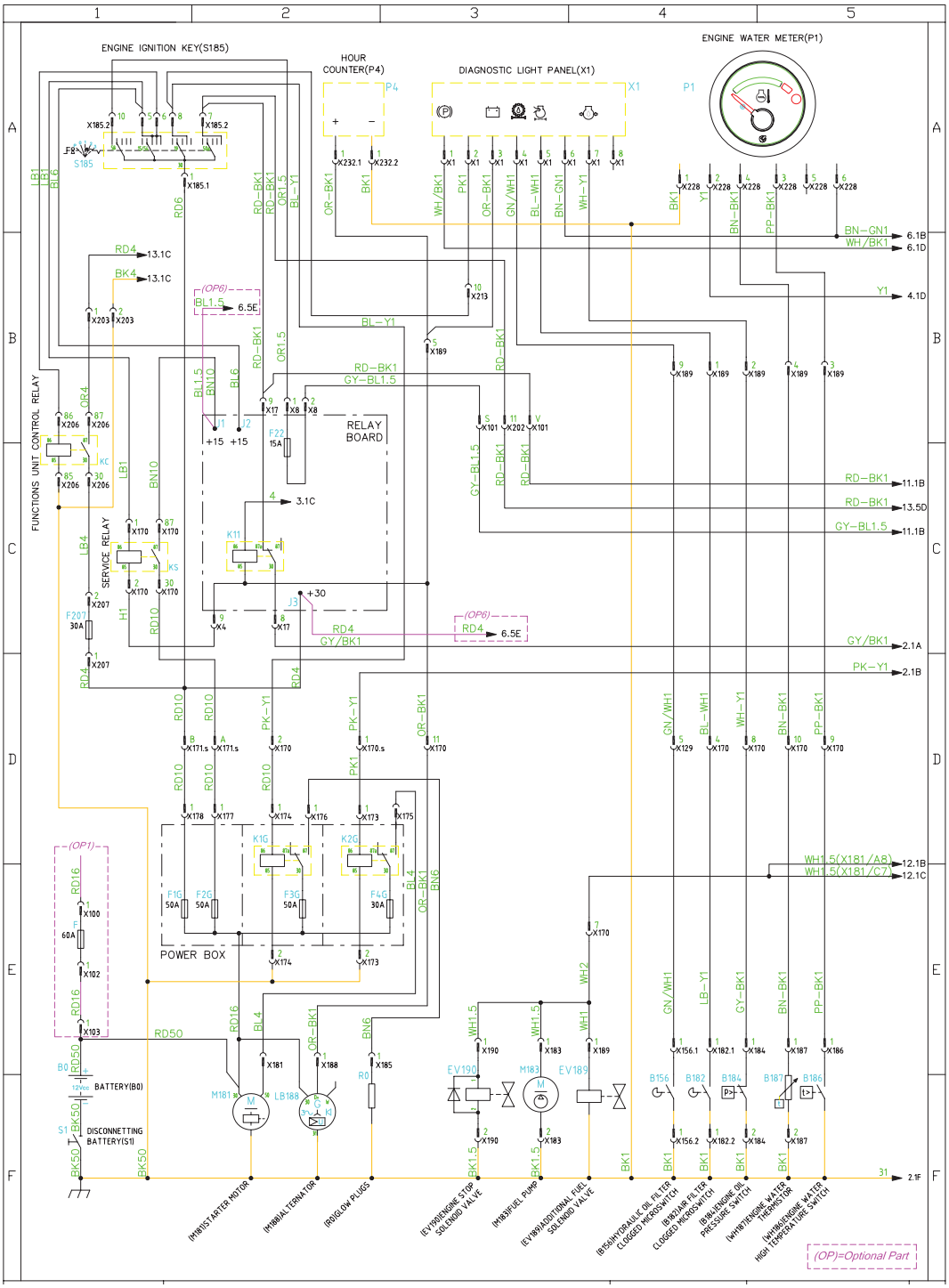
■ LOAD CHART WITH MAN-PLATFORM GTH-4016 SR



under construction

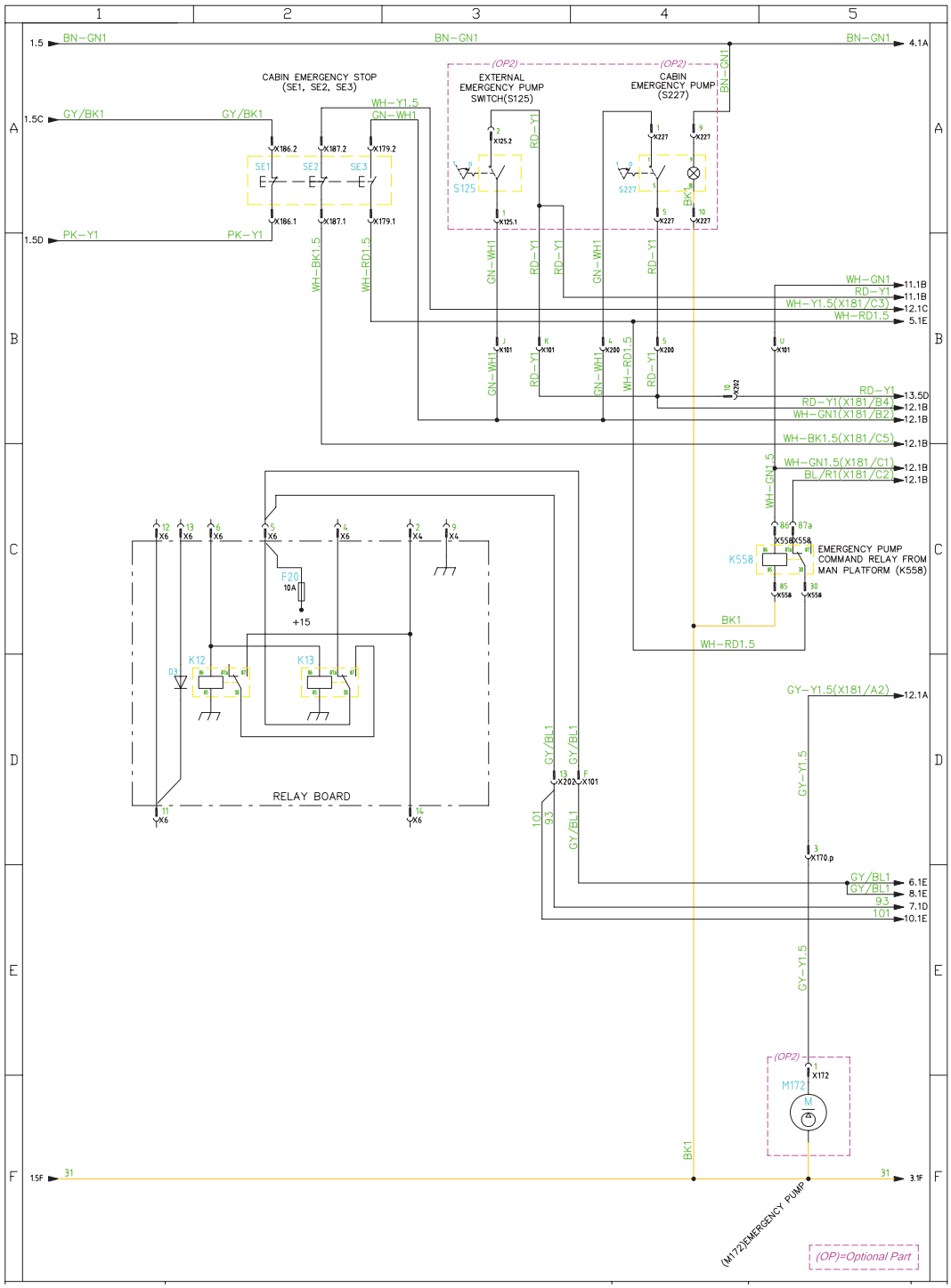
Diagrams and Schemes

GTH-4016 SR WIRING DIAGRAM 1/14



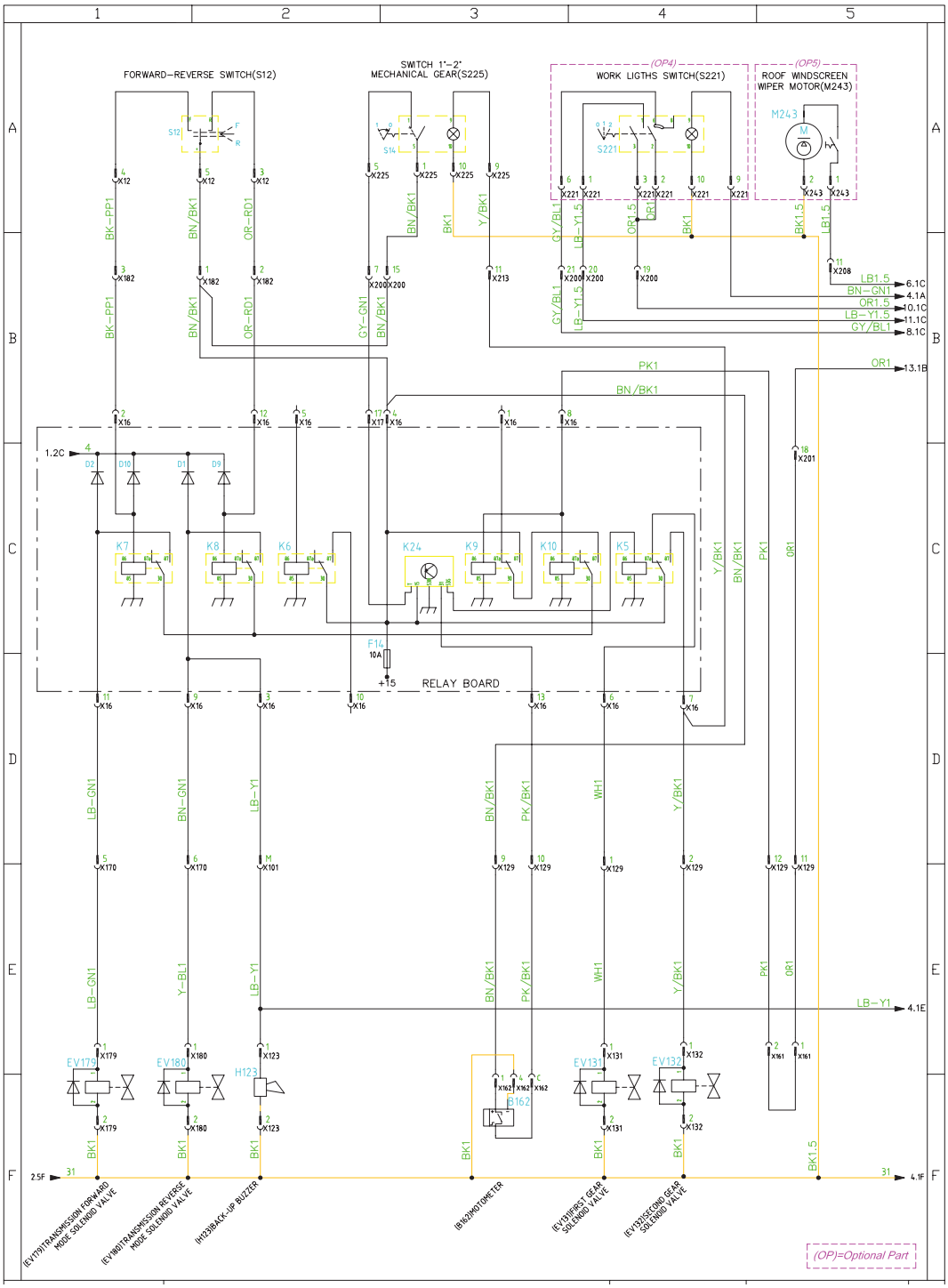
Diagrams and Schemes

GTH-4016 SR WIRING DIAGRAM 2/14



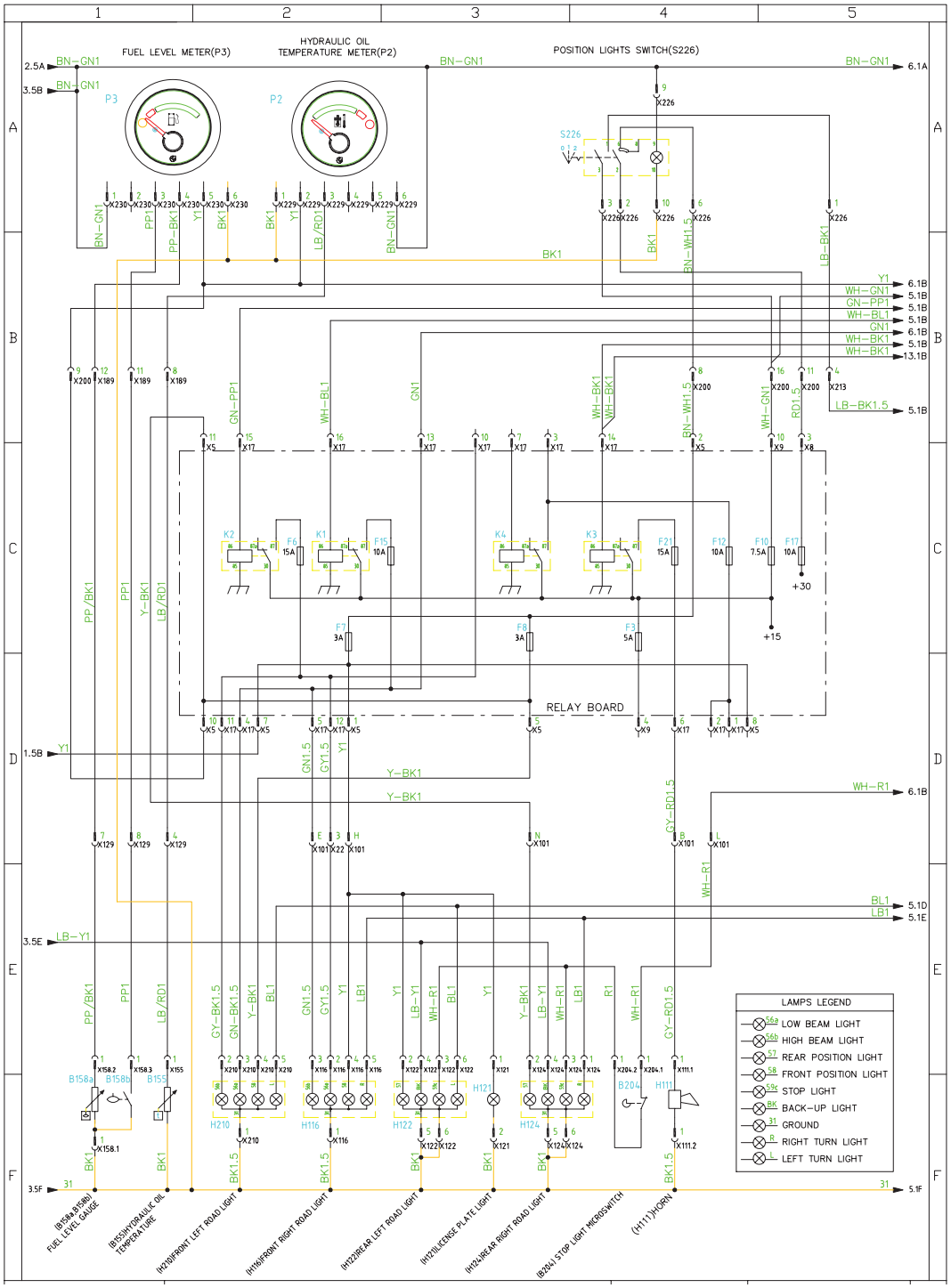
Diagrams and Schemes

GTH-4016 SR WIRING DIAGRAM 3/14



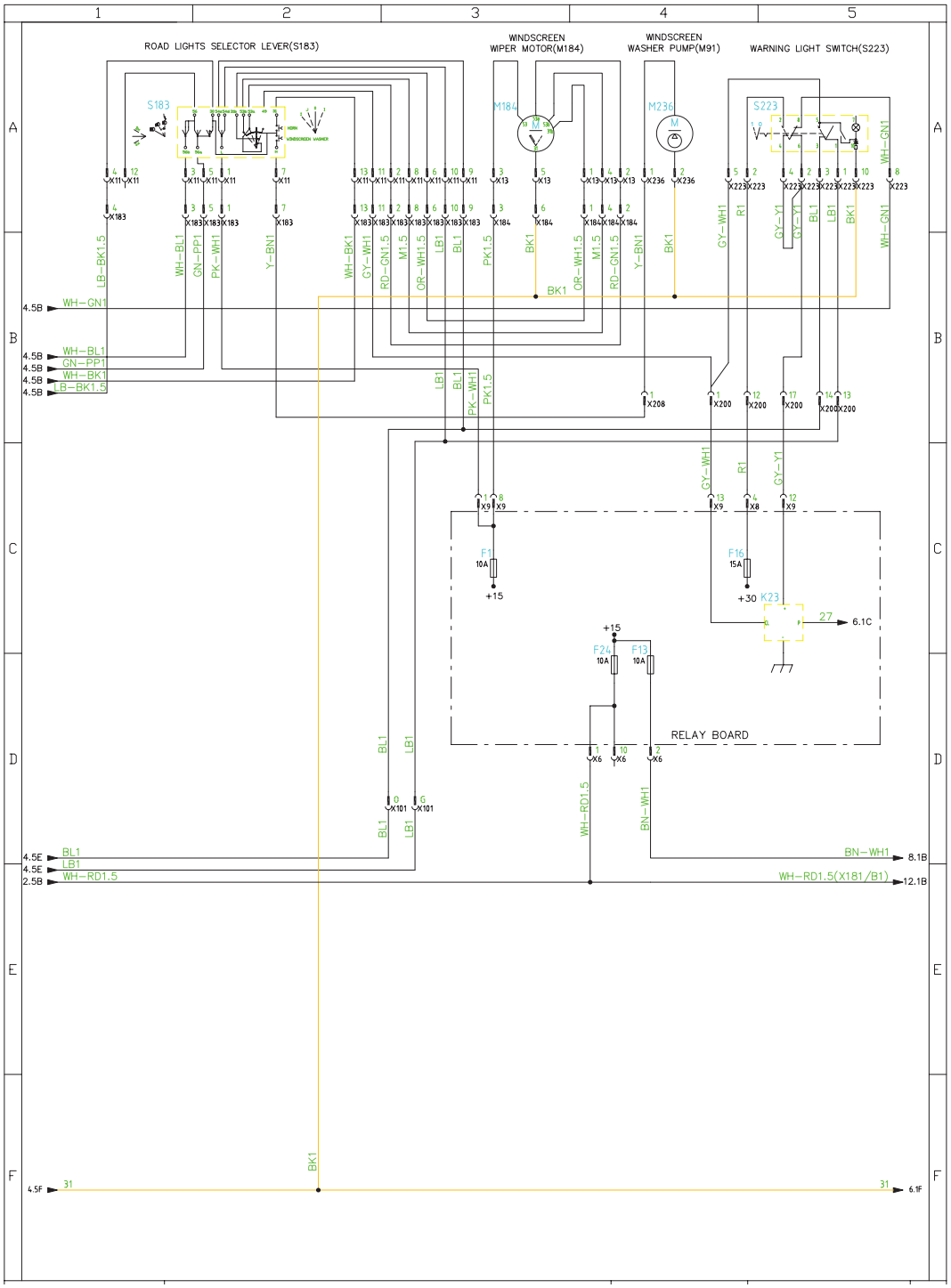
Diagrams and Schemes

GTH-4016 SR WIRING DIAGRAM 4/14



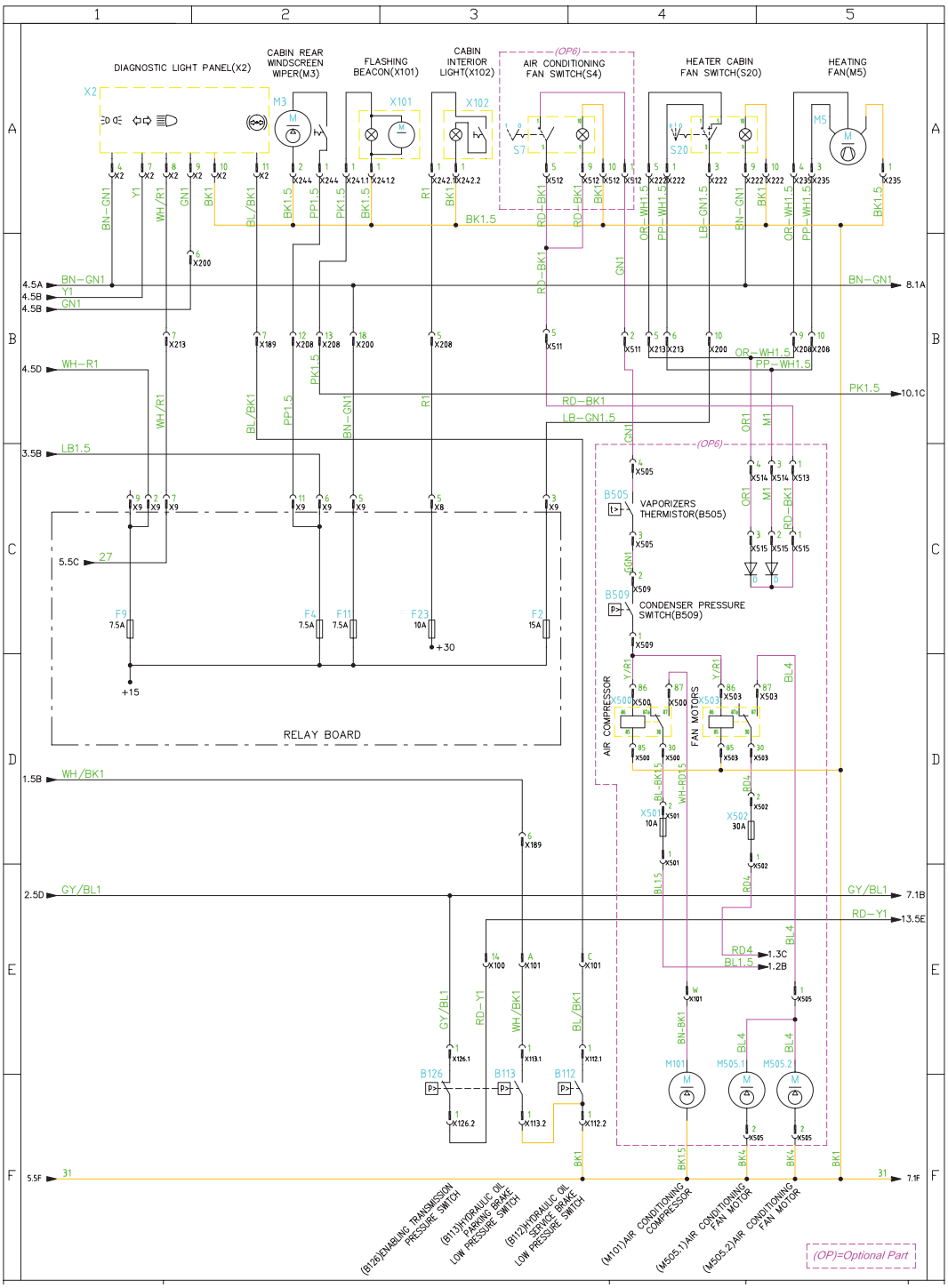
Diagrams and Schemes

GTH-4016 SR WIRING DIAGRAM 5/14



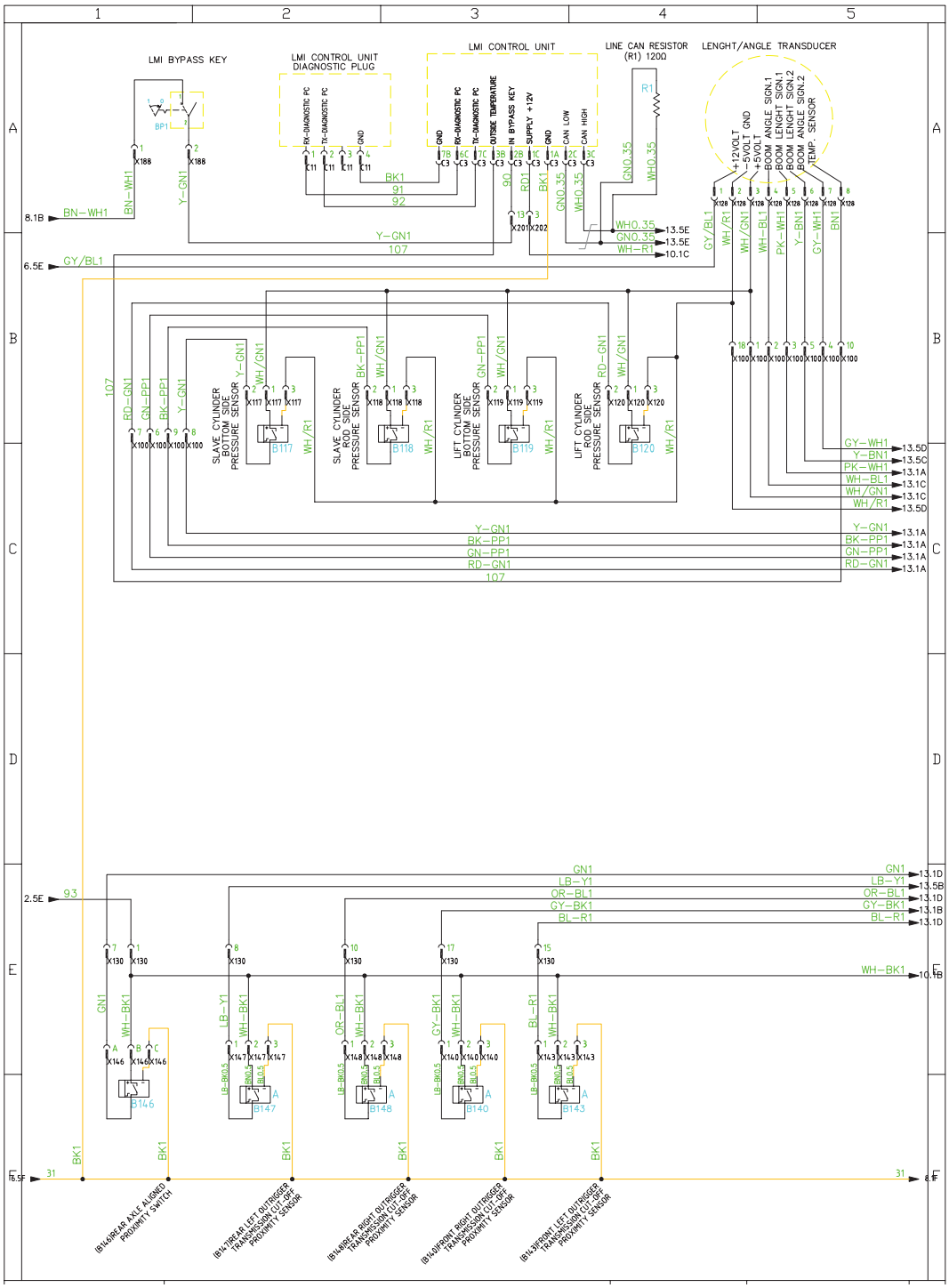
Diagrams and Schemes

GTH-4016 SR WIRING DIAGRAM 6/14



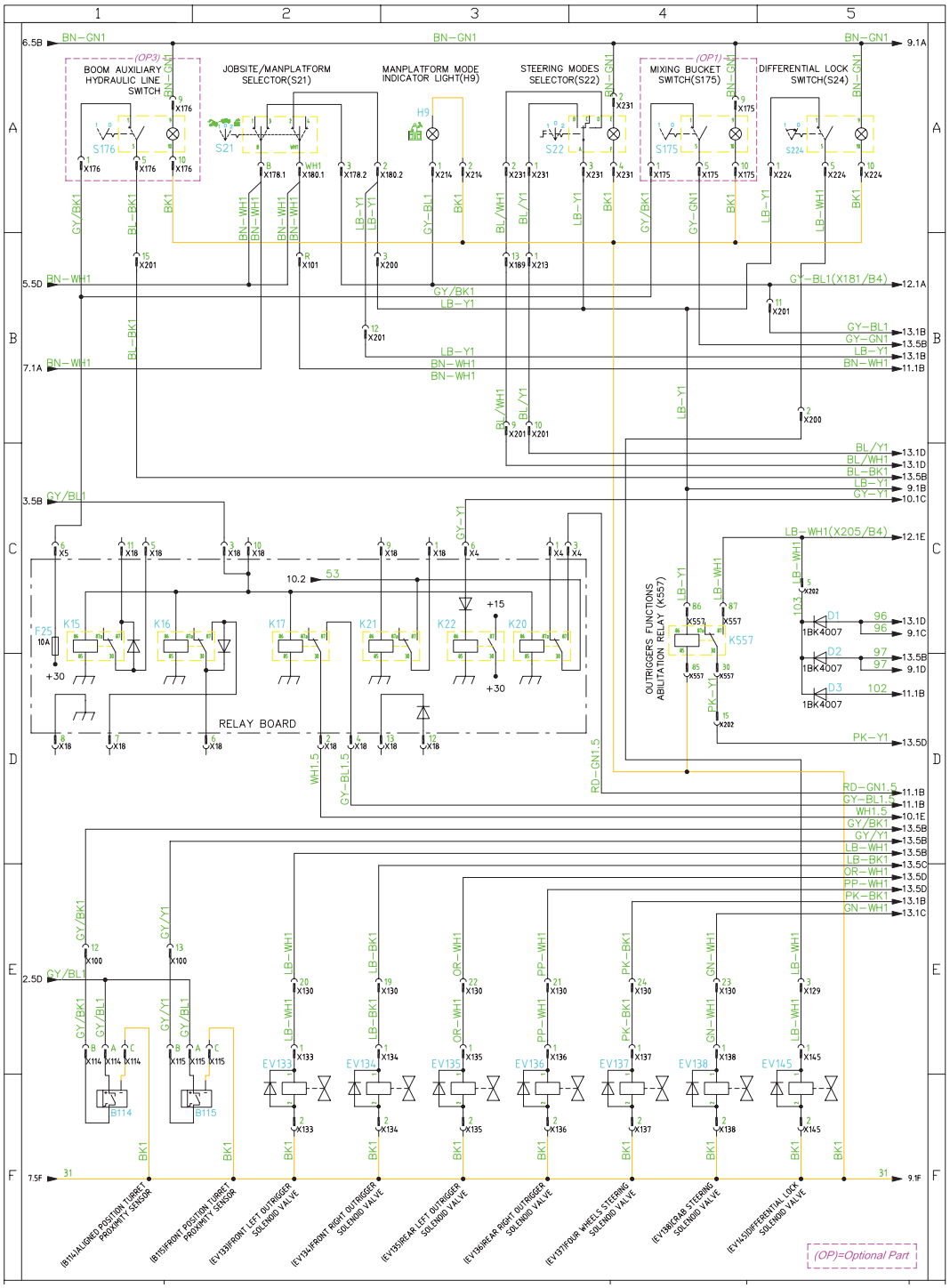
Diagrams and Schemes

GTH-4016 SR WIRING DIAGRAM 7/14



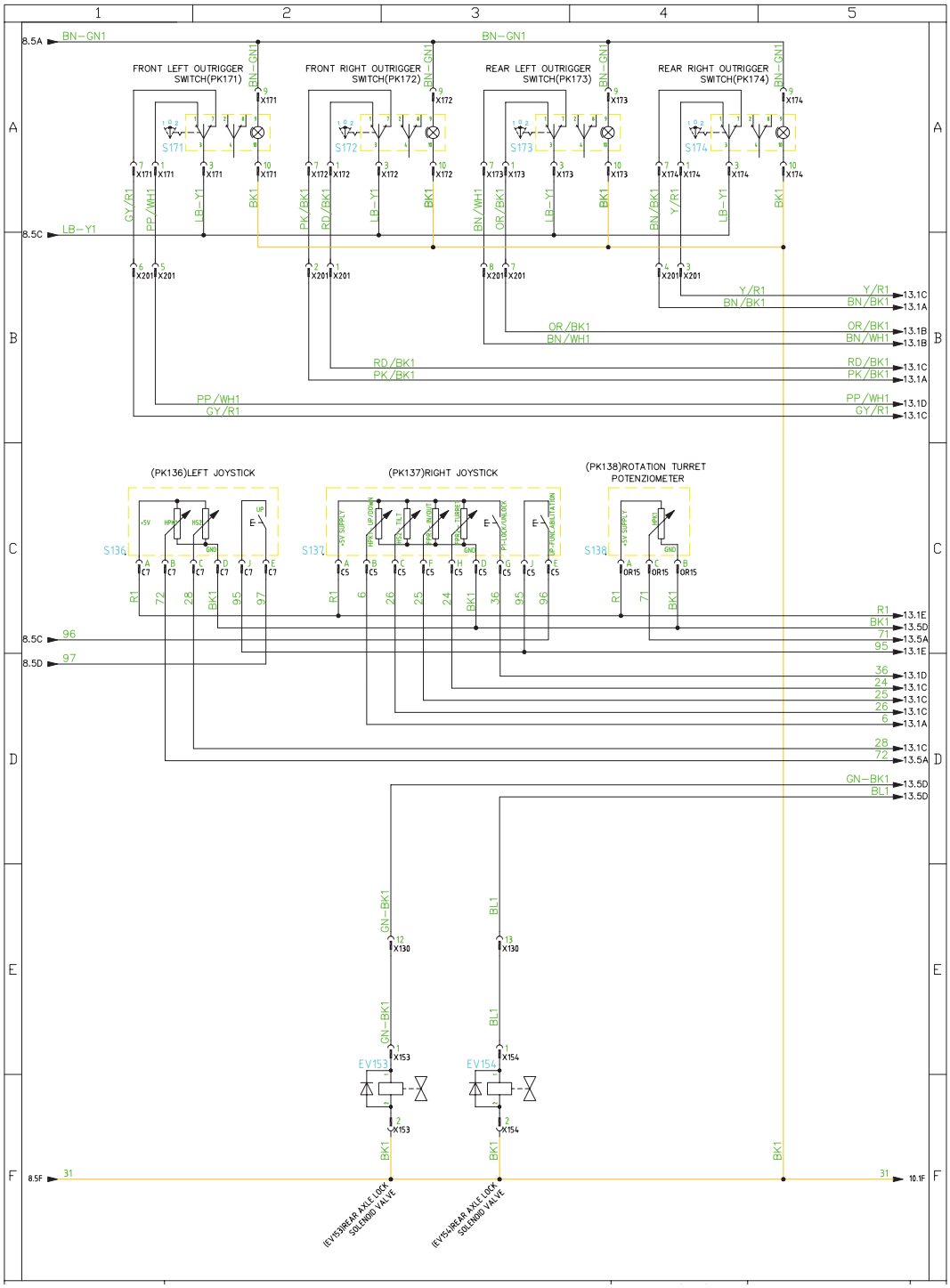
Diagrams and Schemes

GTH-4016 SR WIRING DIAGRAM 8/14



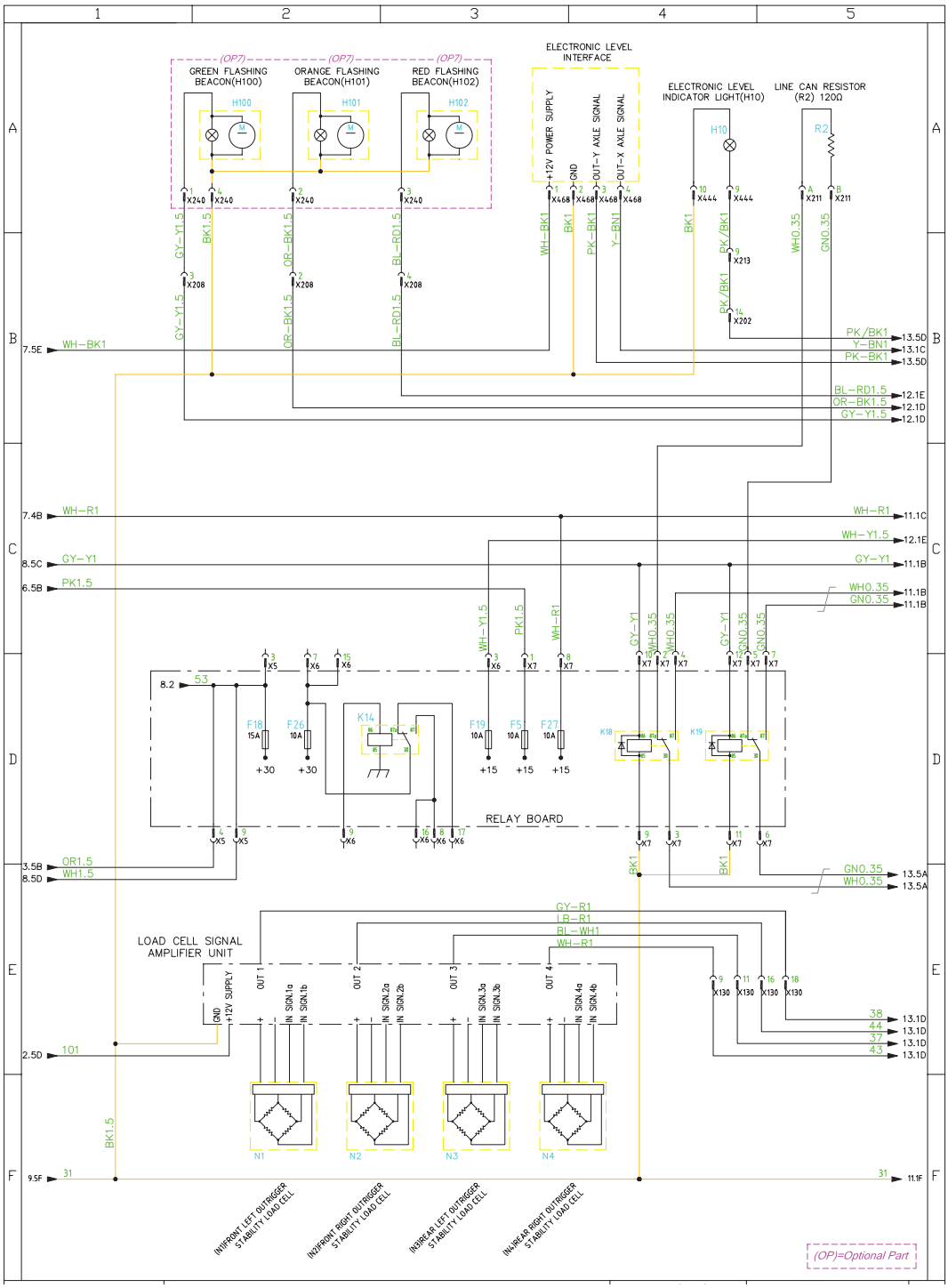
Diagrams and Schemes

GTH-4016 SR WIRING DIAGRAM 9/14



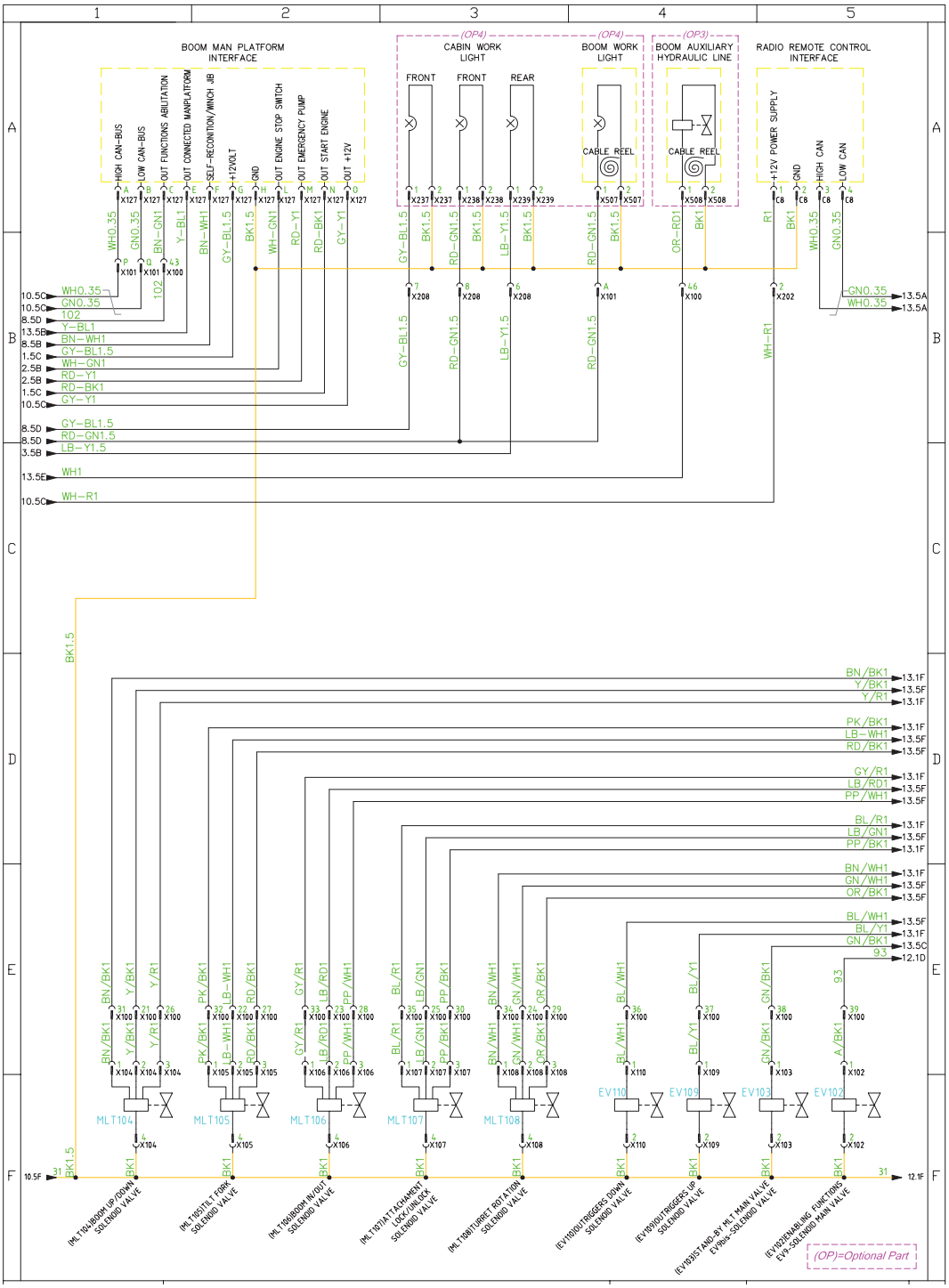
Diagrams and Schemes

GTH-4016 SR WIRING DIAGRAM 10/14



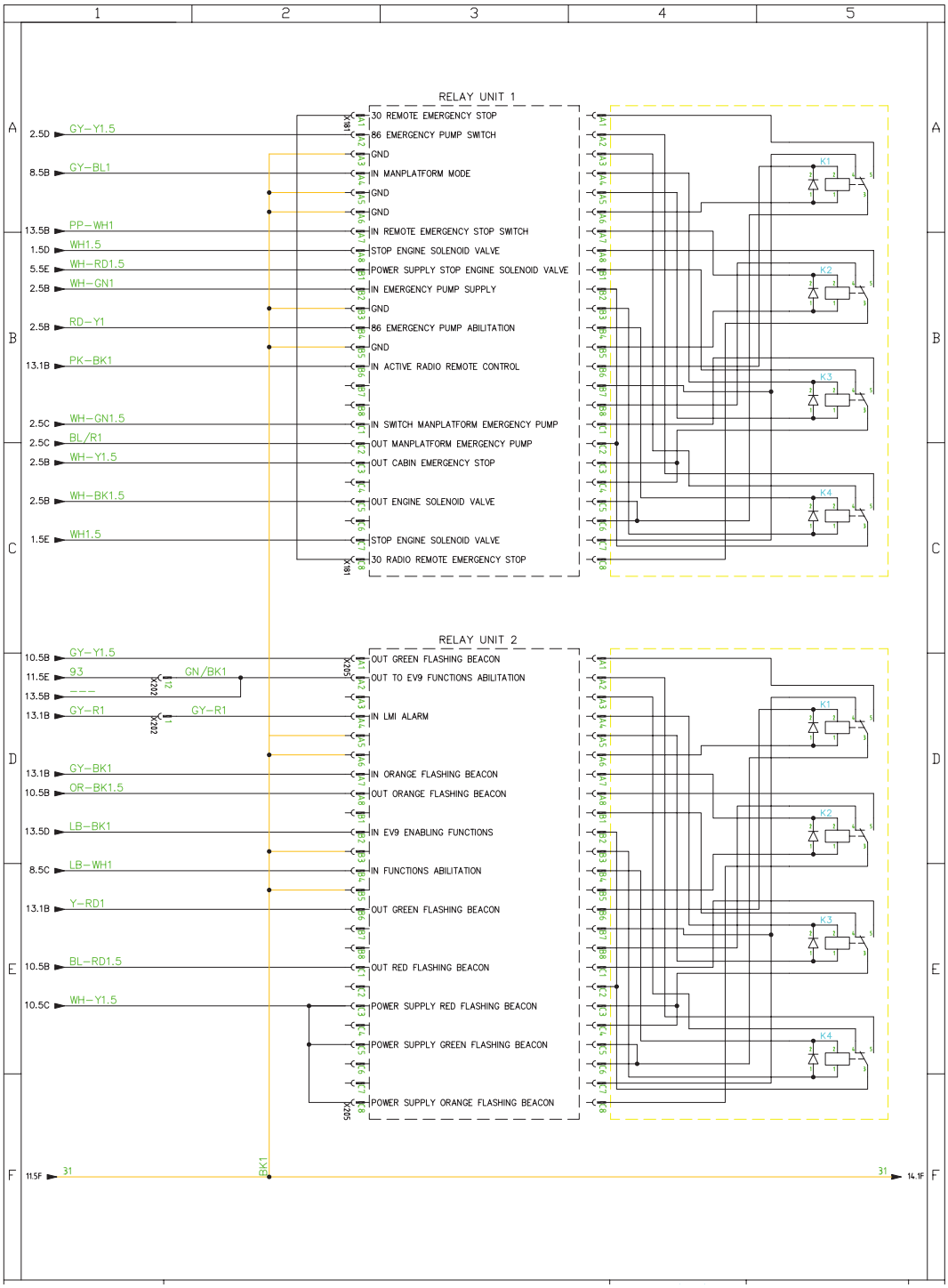
Diagrams and Schemes

GTH-4016 SR WIRING DIAGRAM 11/14



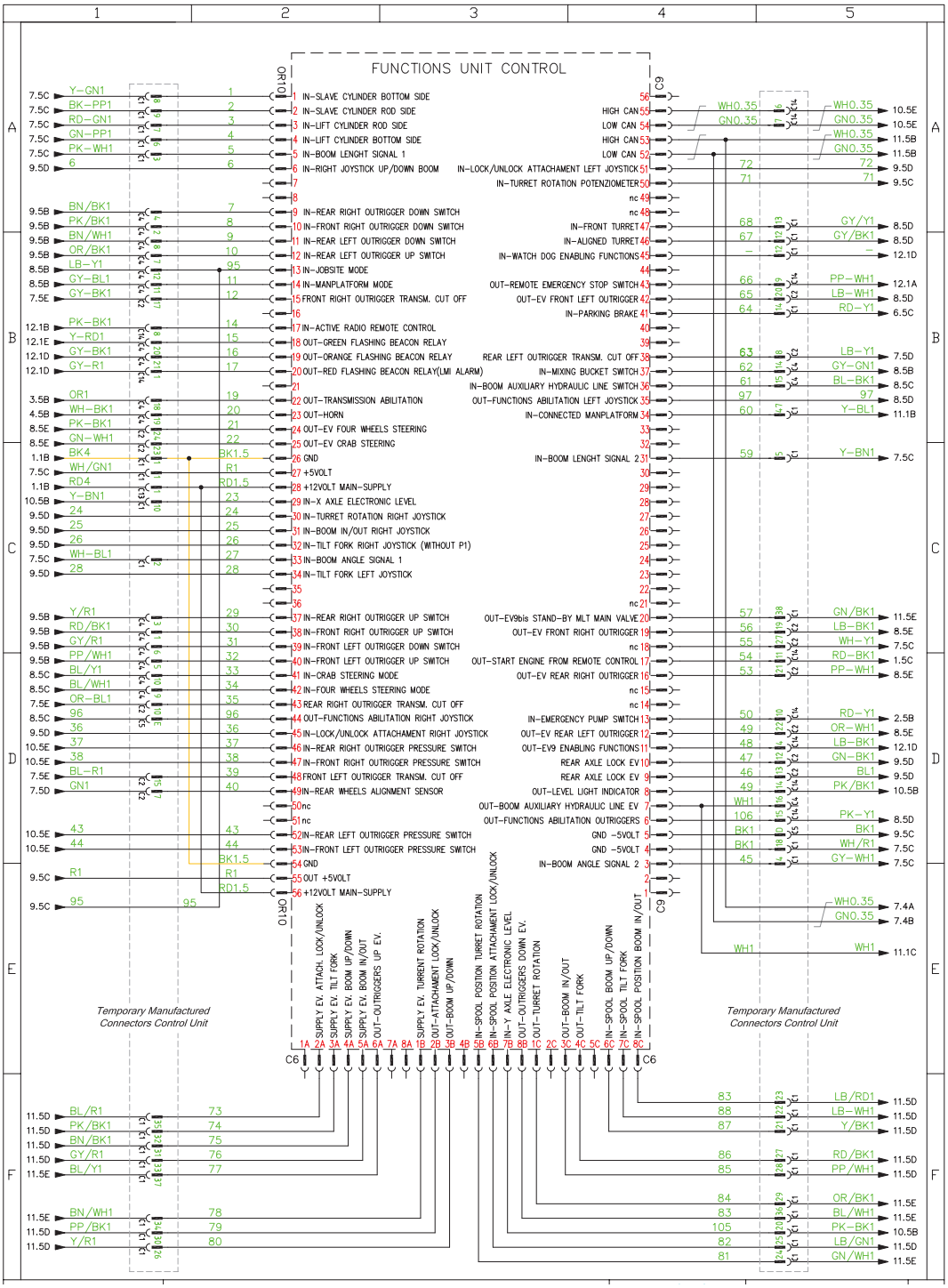
Diagrams and Schemes

GTH-4016 SR WIRING DIAGRAM 12/14



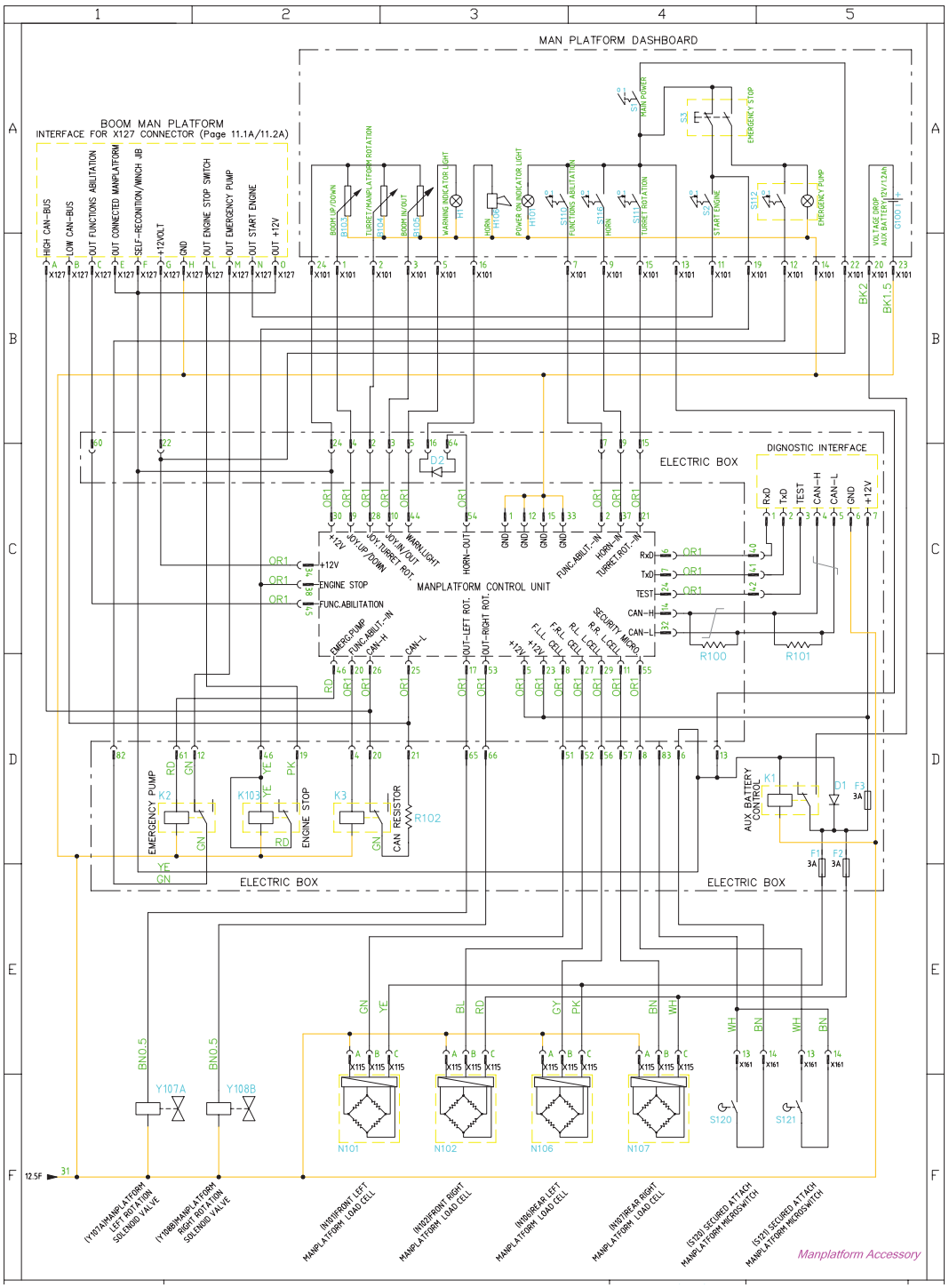
Diagrams and Schemes

GTH-4016 SR WIRING DIAGRAM 13/14



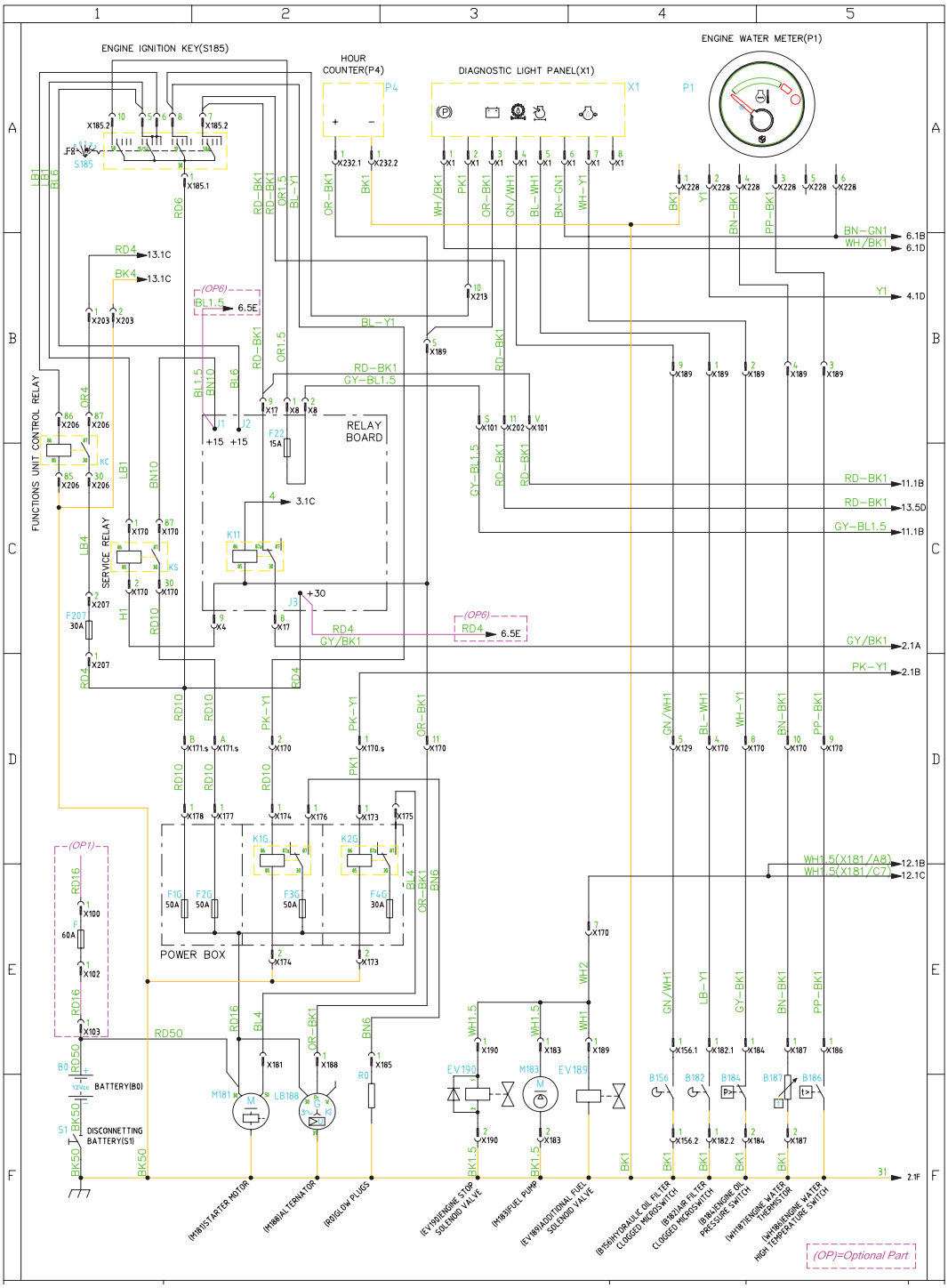
Diagrams and Schemes

GTH-4016 SR WIRING DIAGRAM 14/14



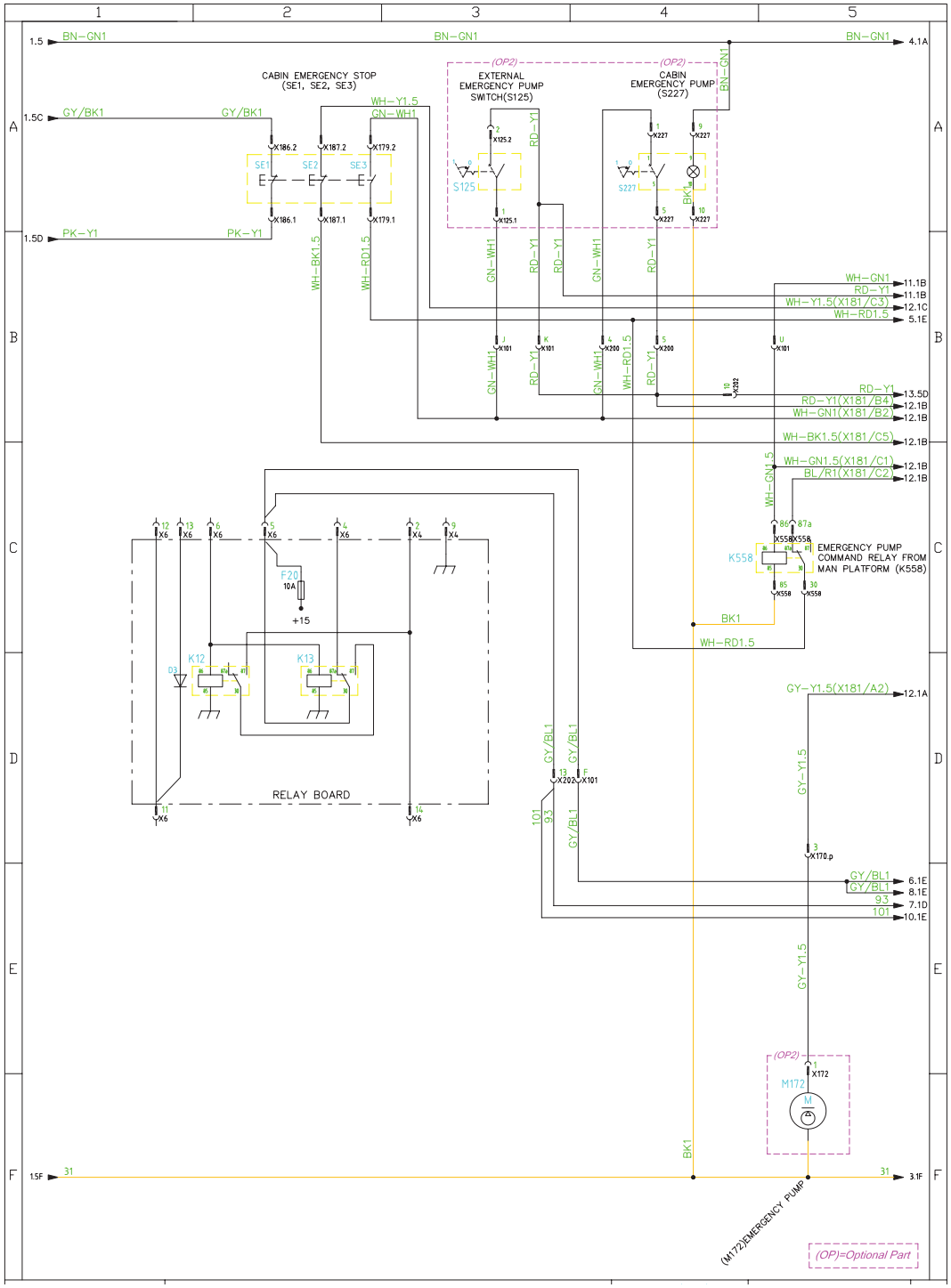
Diagrams and Schemes

GTH-4018 SR WIRING DIAGRAM 1/14



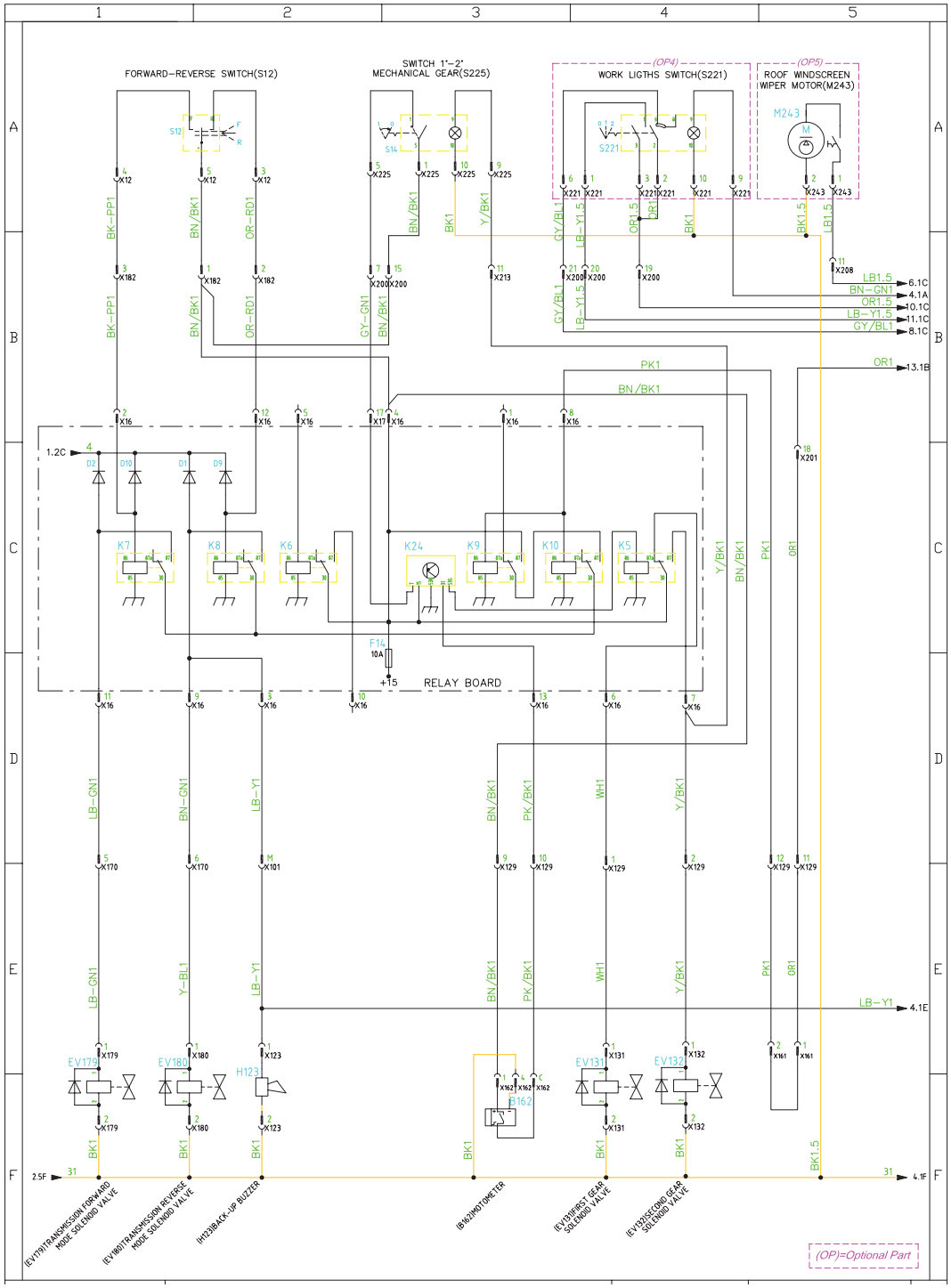
Diagrams and Schemes

GTH-4018 SR WIRING DIAGRAM 2/14



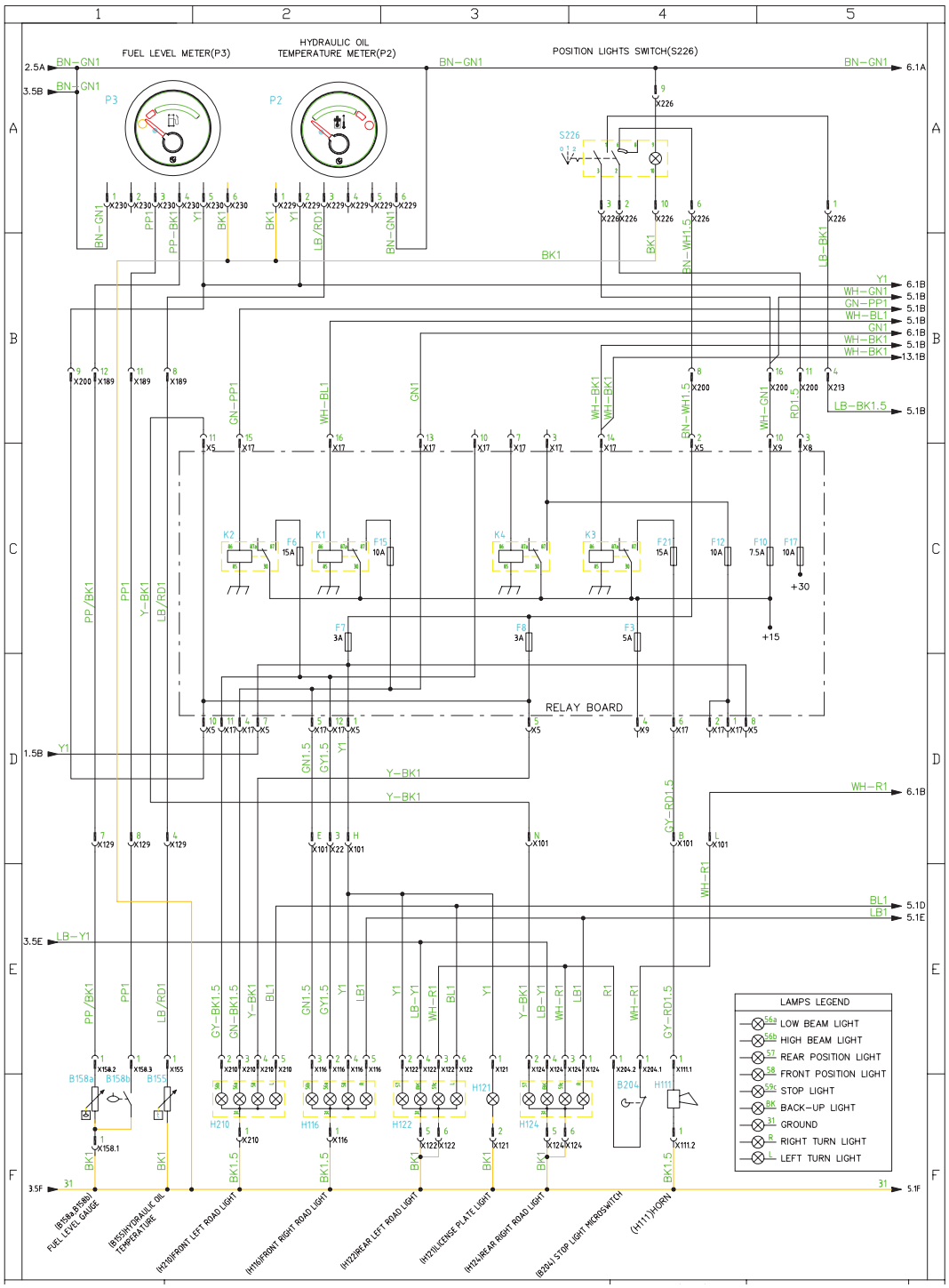
Diagrams and Schemes

GTH-4018 SR WIRING DIAGRAM 3/14



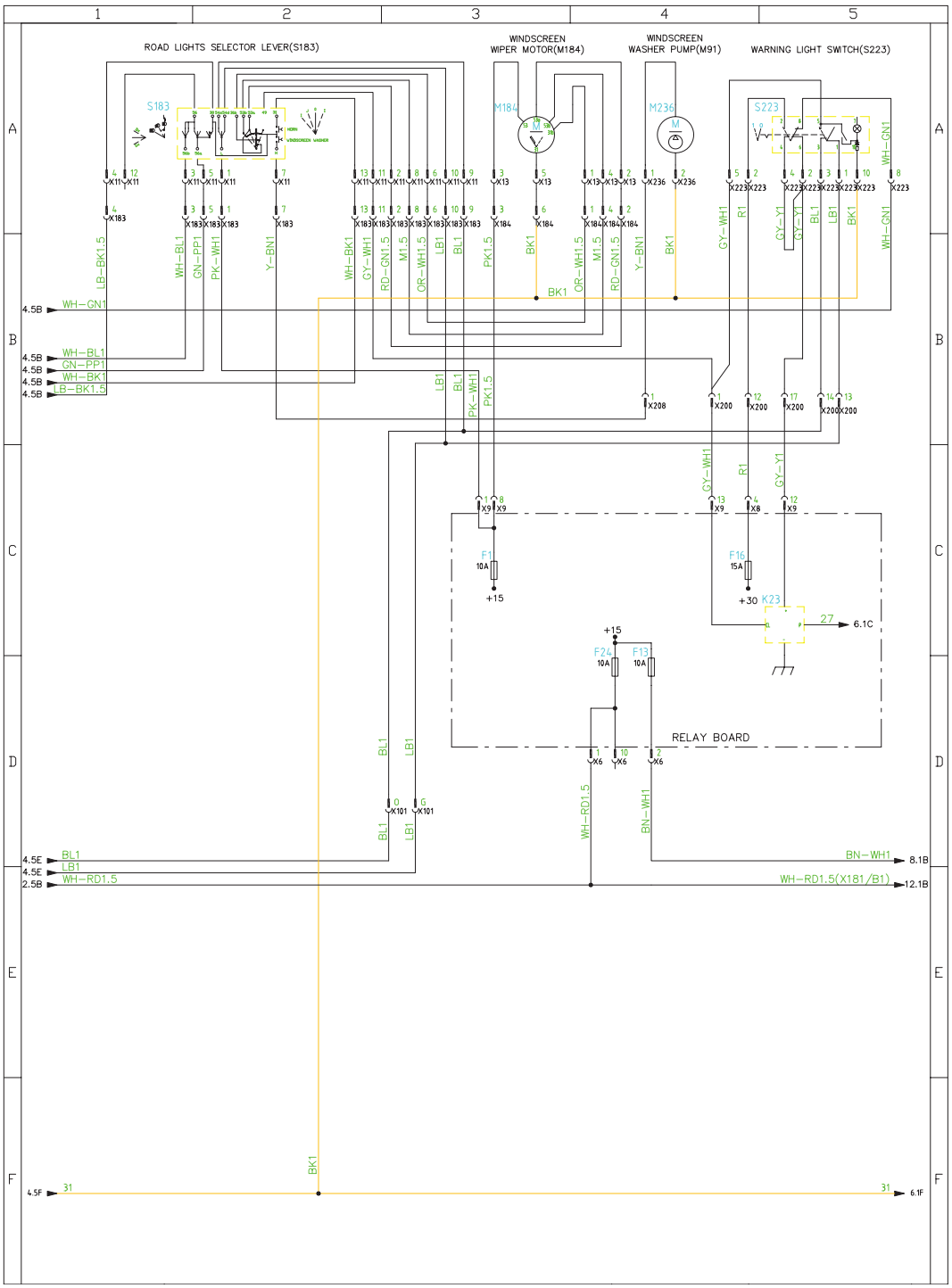
Diagrams and Schemes

GTH-4018 SR WIRING DIAGRAM 4/14



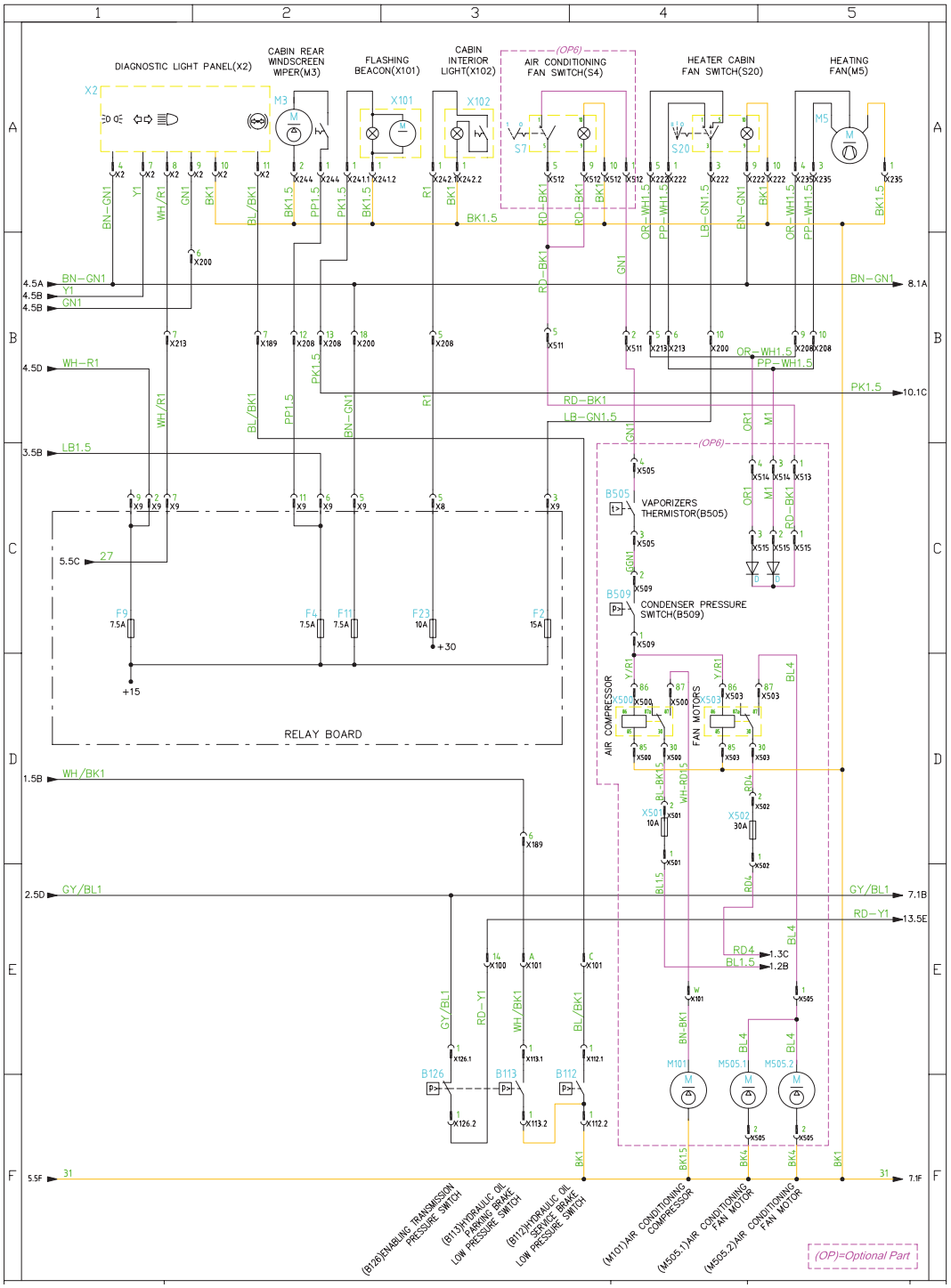
Diagrams and Schemes

GTH-4018 SR WIRING DIAGRAM 5/14



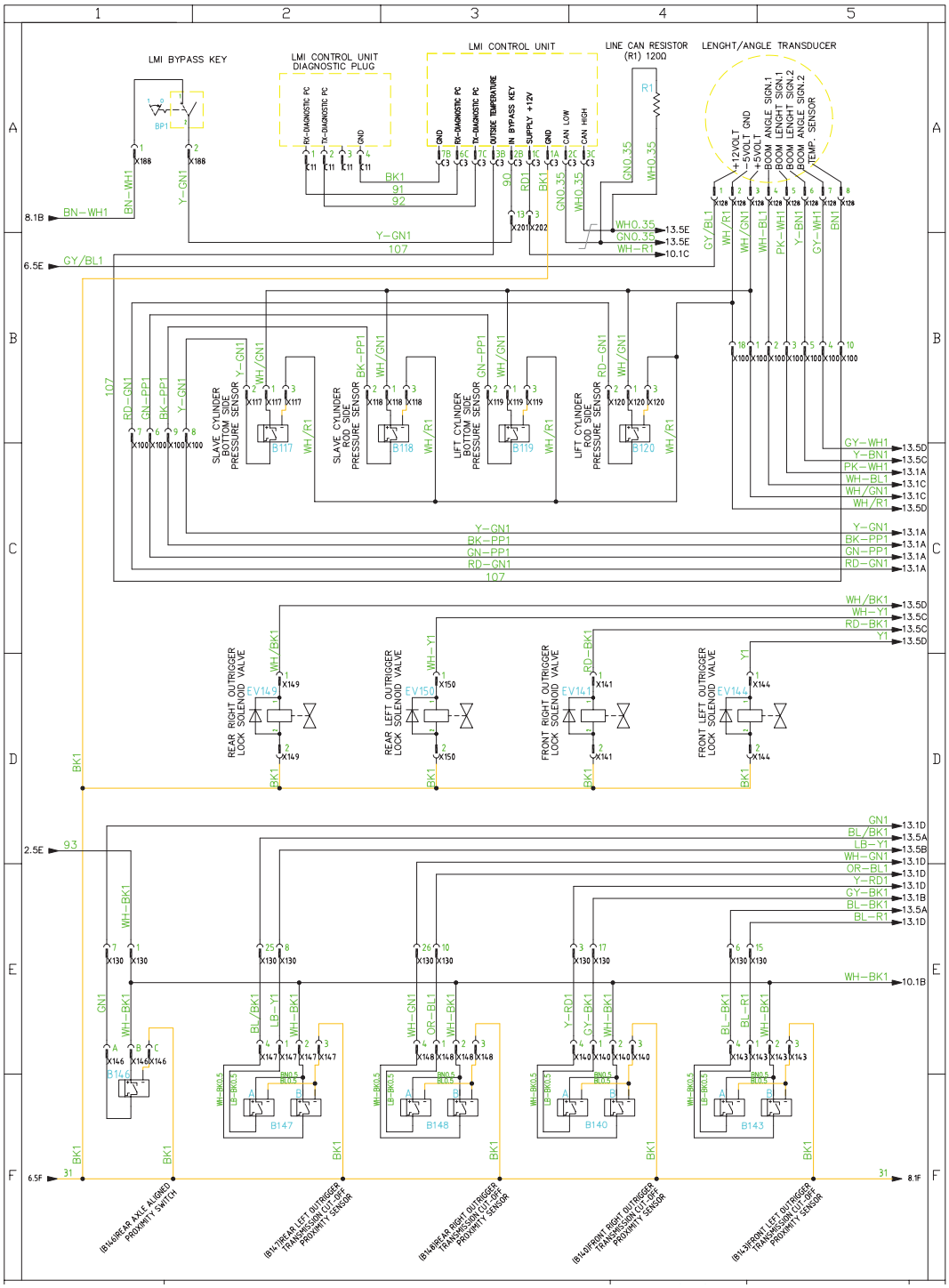
Diagrams and Schemes

GTH-4018 SR WIRING DIAGRAM 6/14



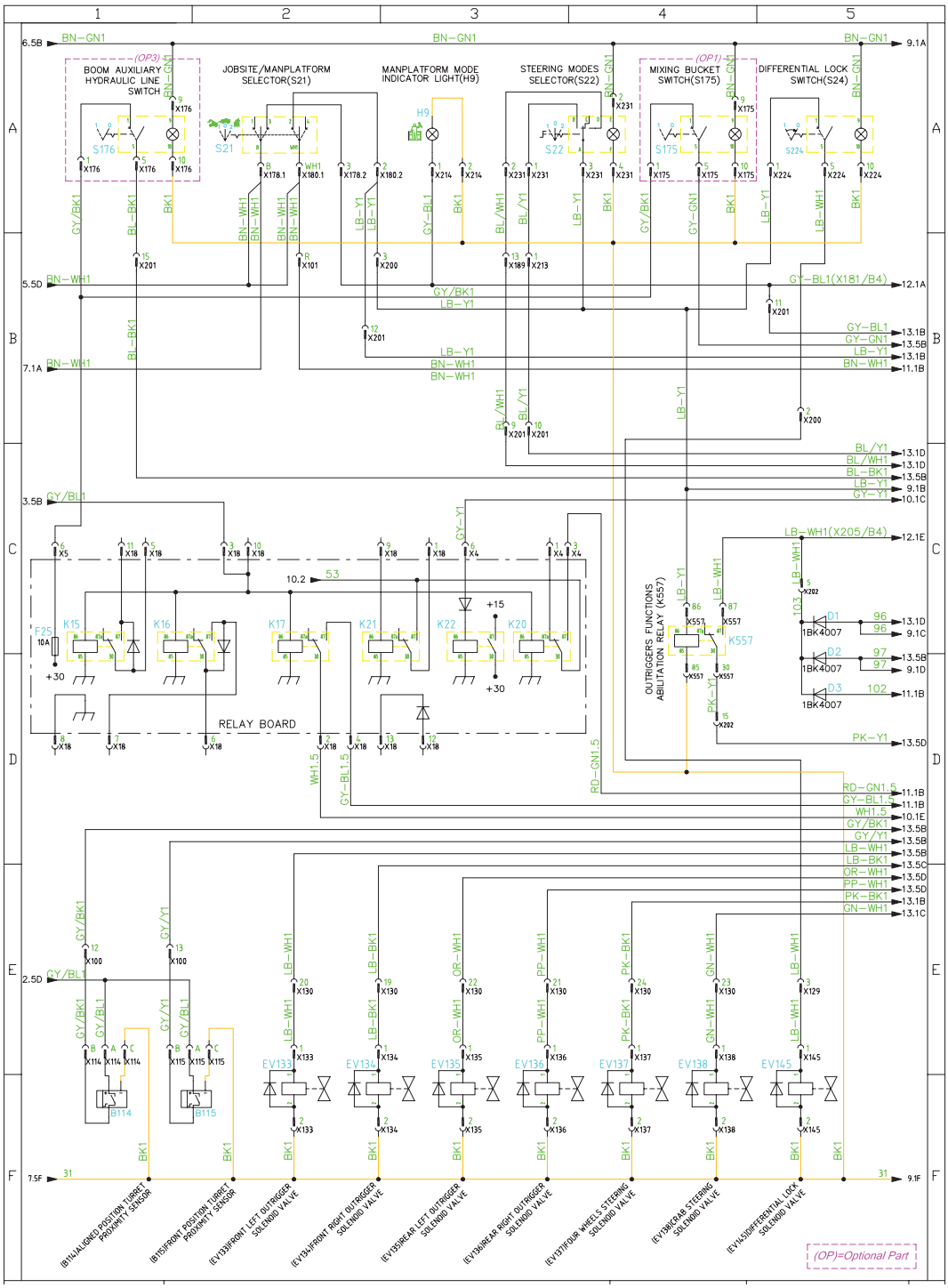
Diagrams and Schemes

GTH-4018 SR WIRING DIAGRAM 7/14



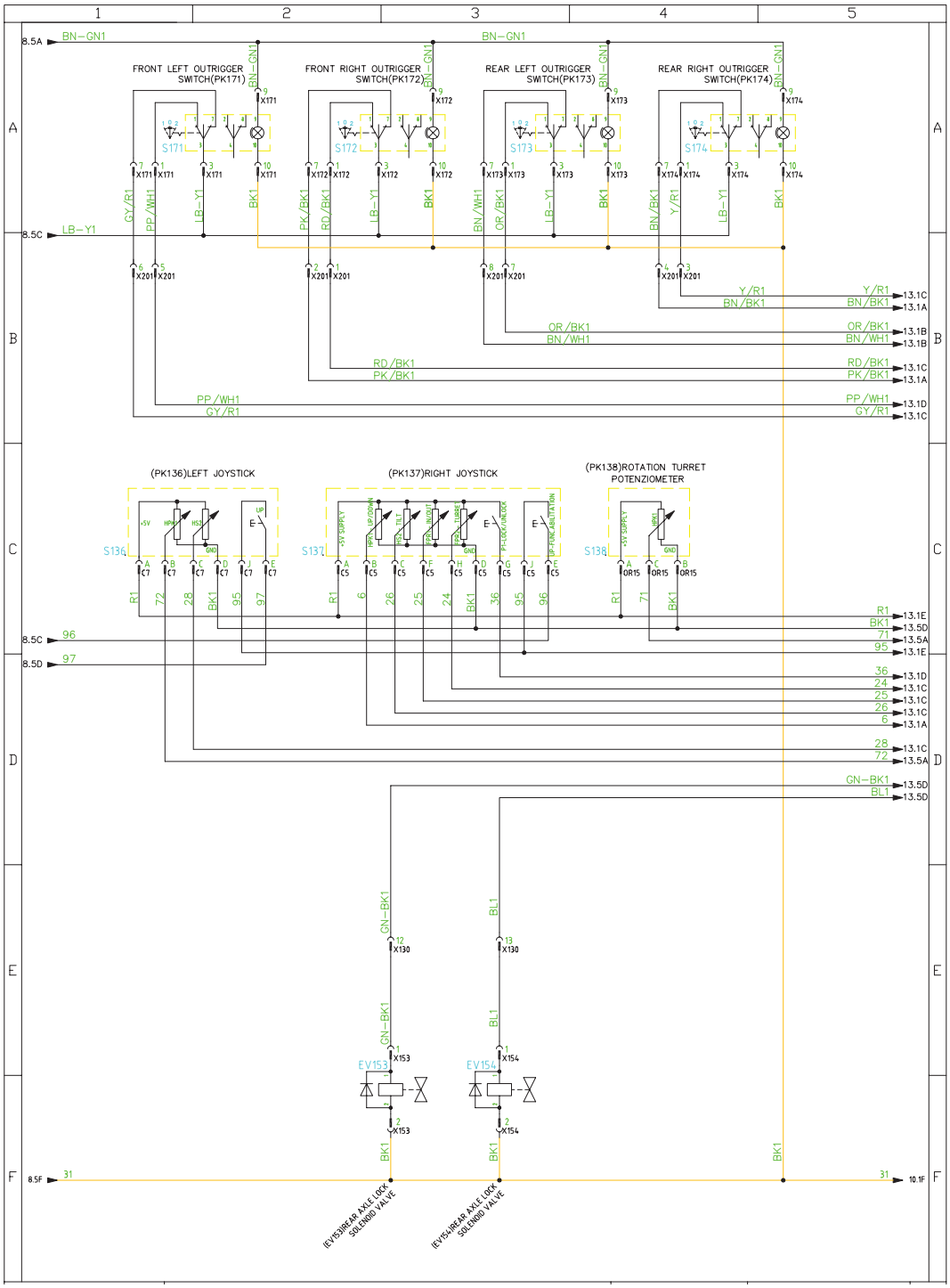
Diagrams and Schemes

GTH-4018 SR WIRING DIAGRAM 8/14



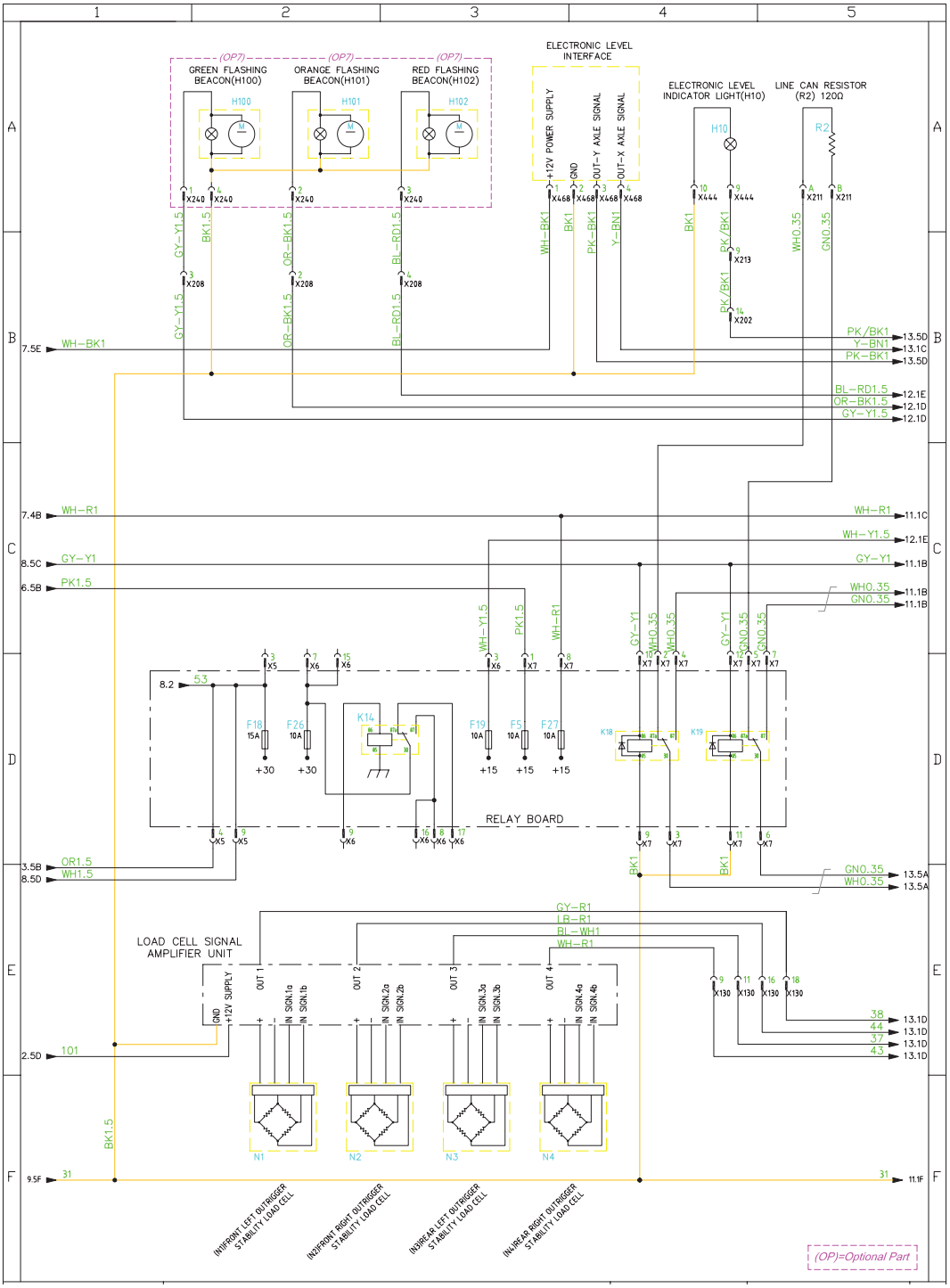
Diagrams and Schemes

GTH-4018 SR WIRING DIAGRAM 9/14



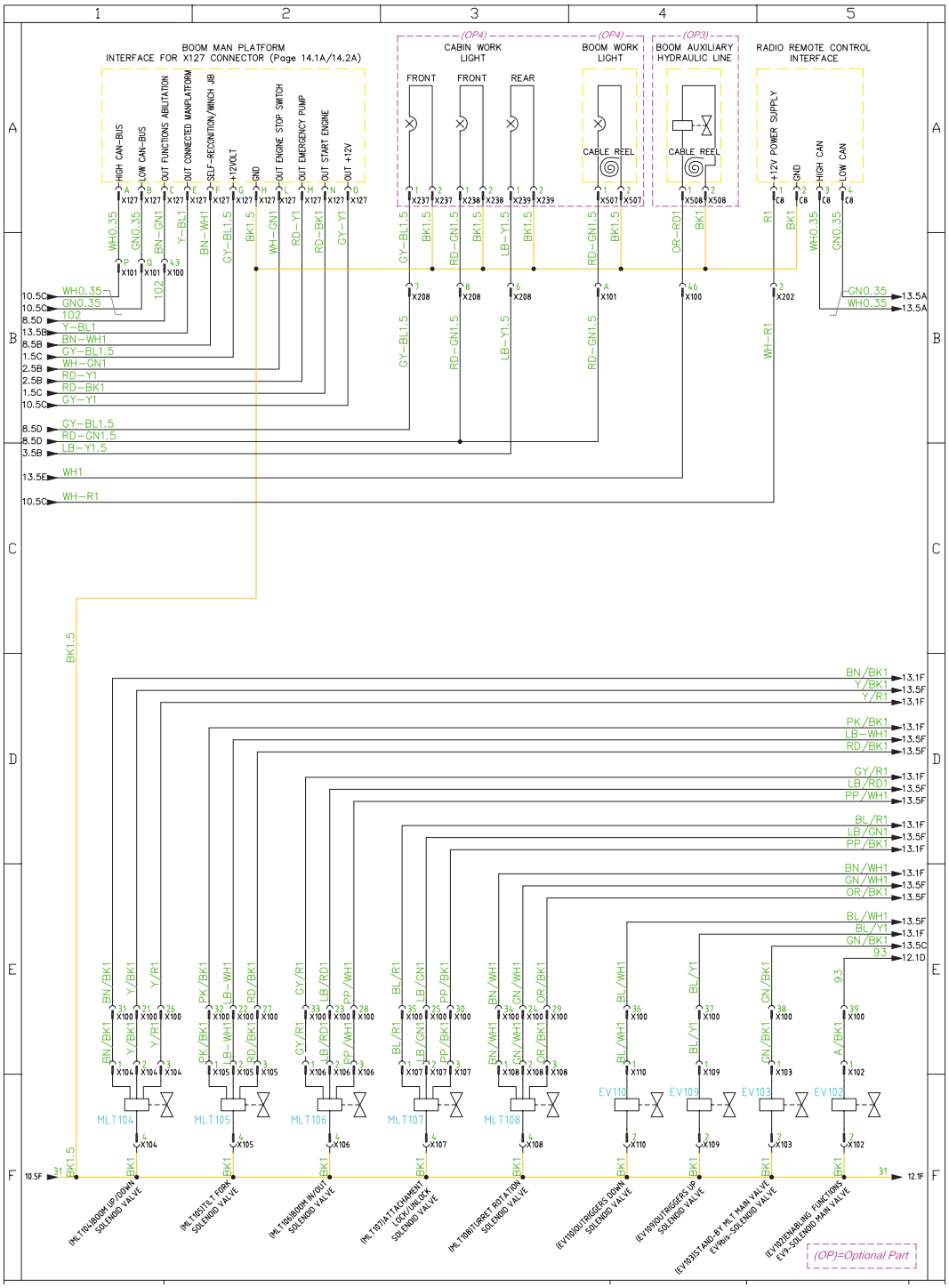
Diagrams and Schemes

GTH-4018 SR WIRING DIAGRAM 10/14



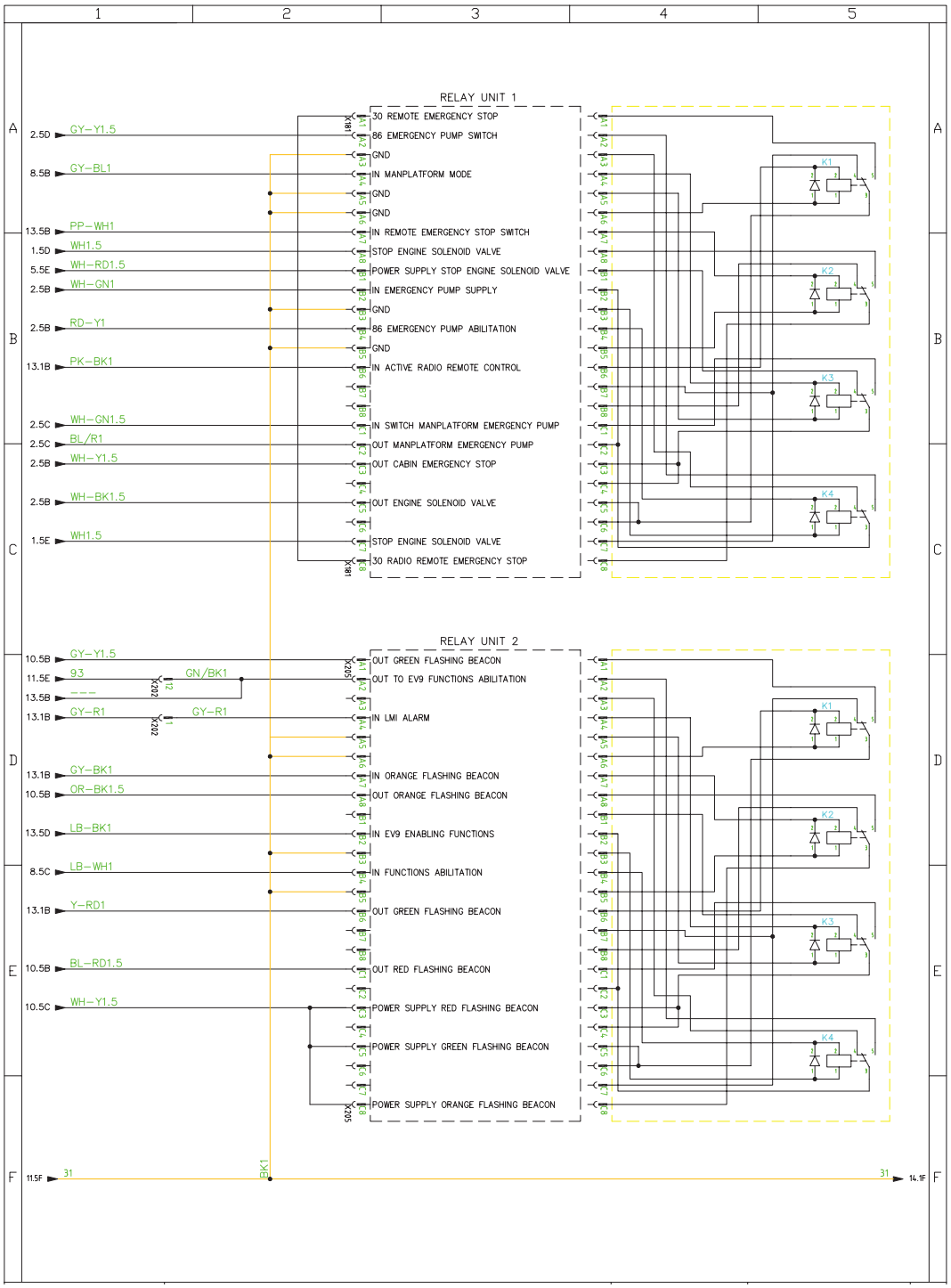
Diagrams and Schemes

GTH-4018 SR WIRING DIAGRAM 11/14



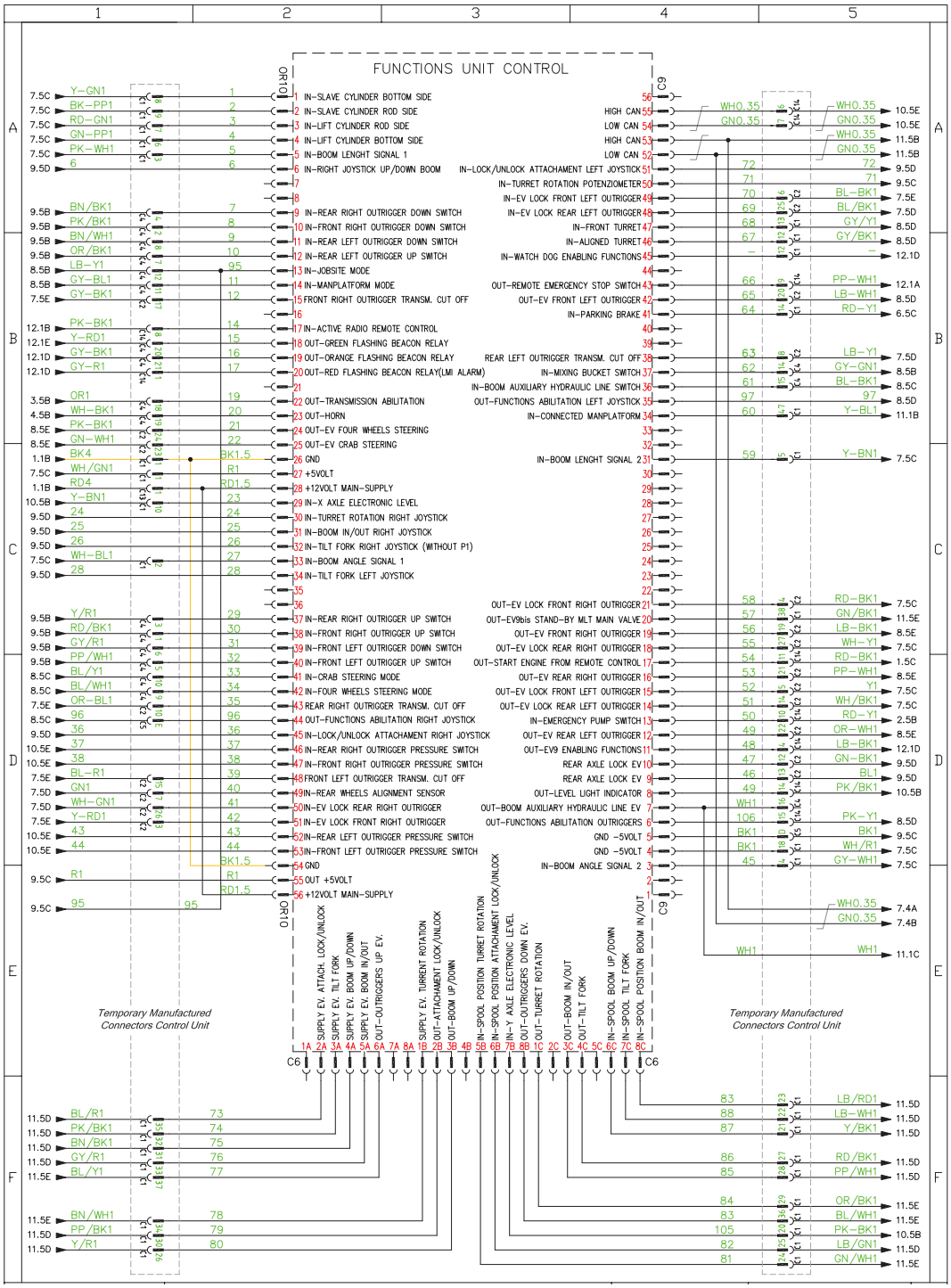
Diagrams and Schemes

GTH-4018 SR WIRING DIAGRAM 12/14



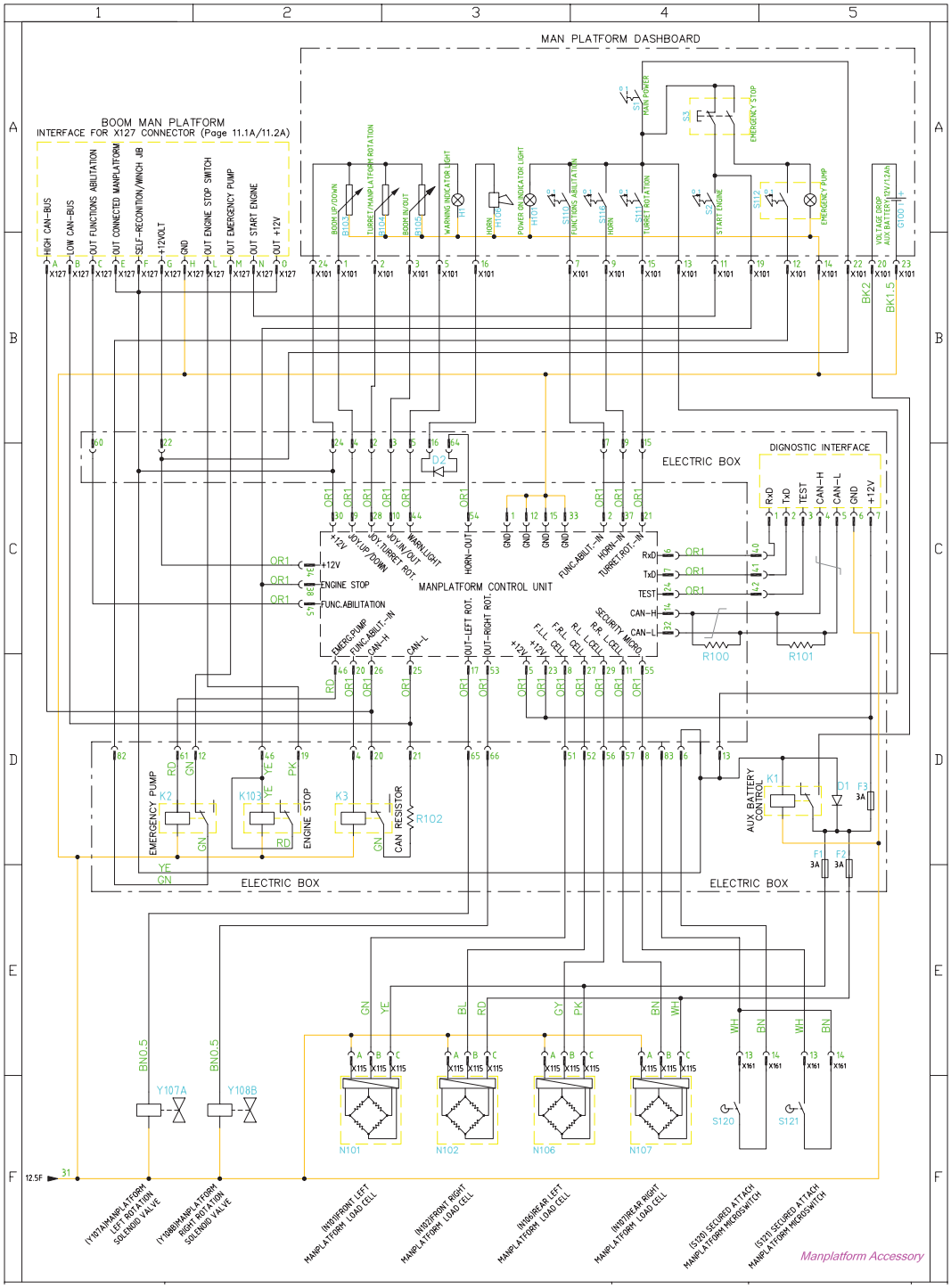
Diagrams and Schemes

GTH-4018 SR WIRING DIAGRAM 13/14



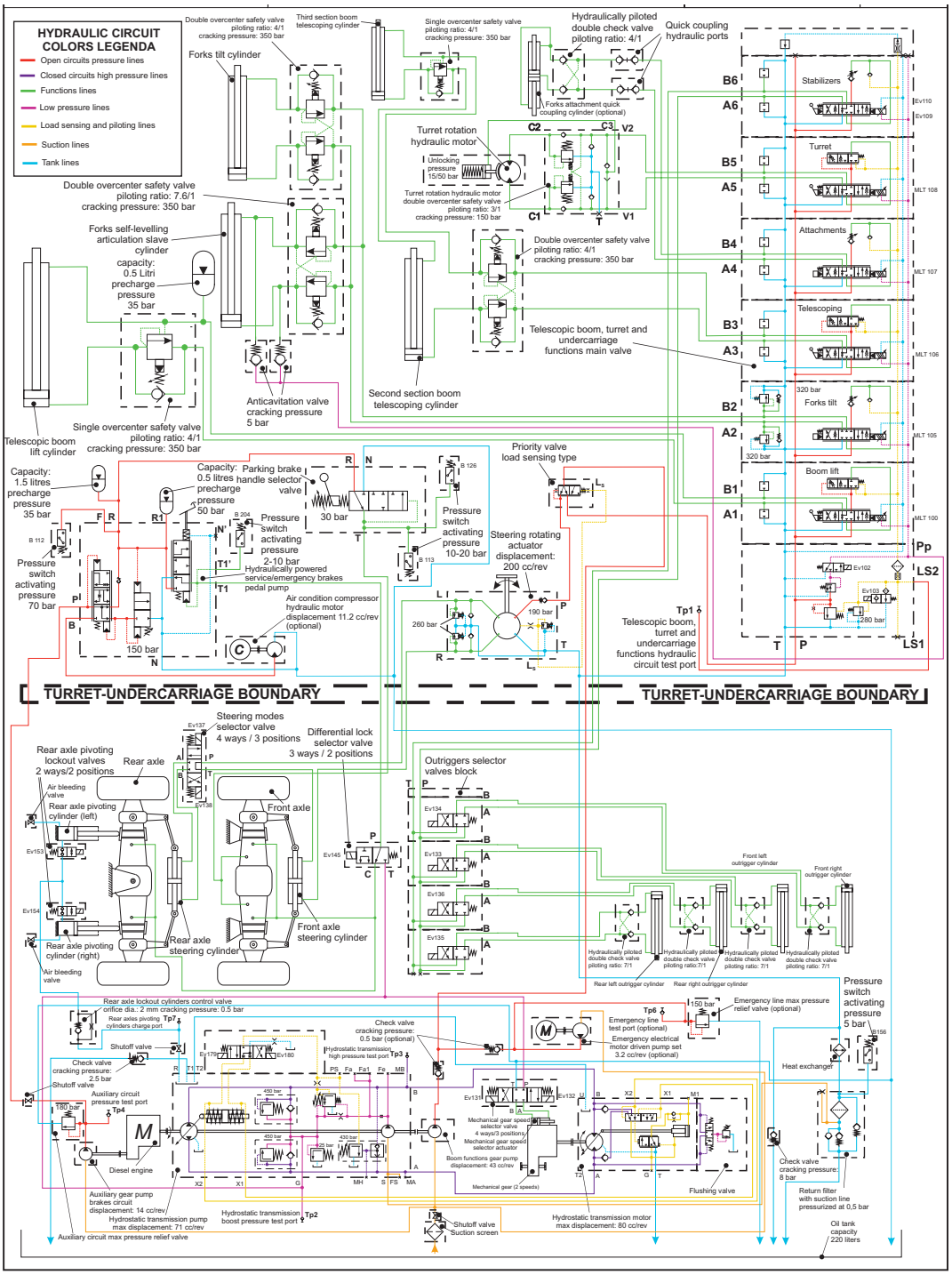
Diagrams and Schemes

GTH-4018 SR WIRING DIAGRAM 14/14



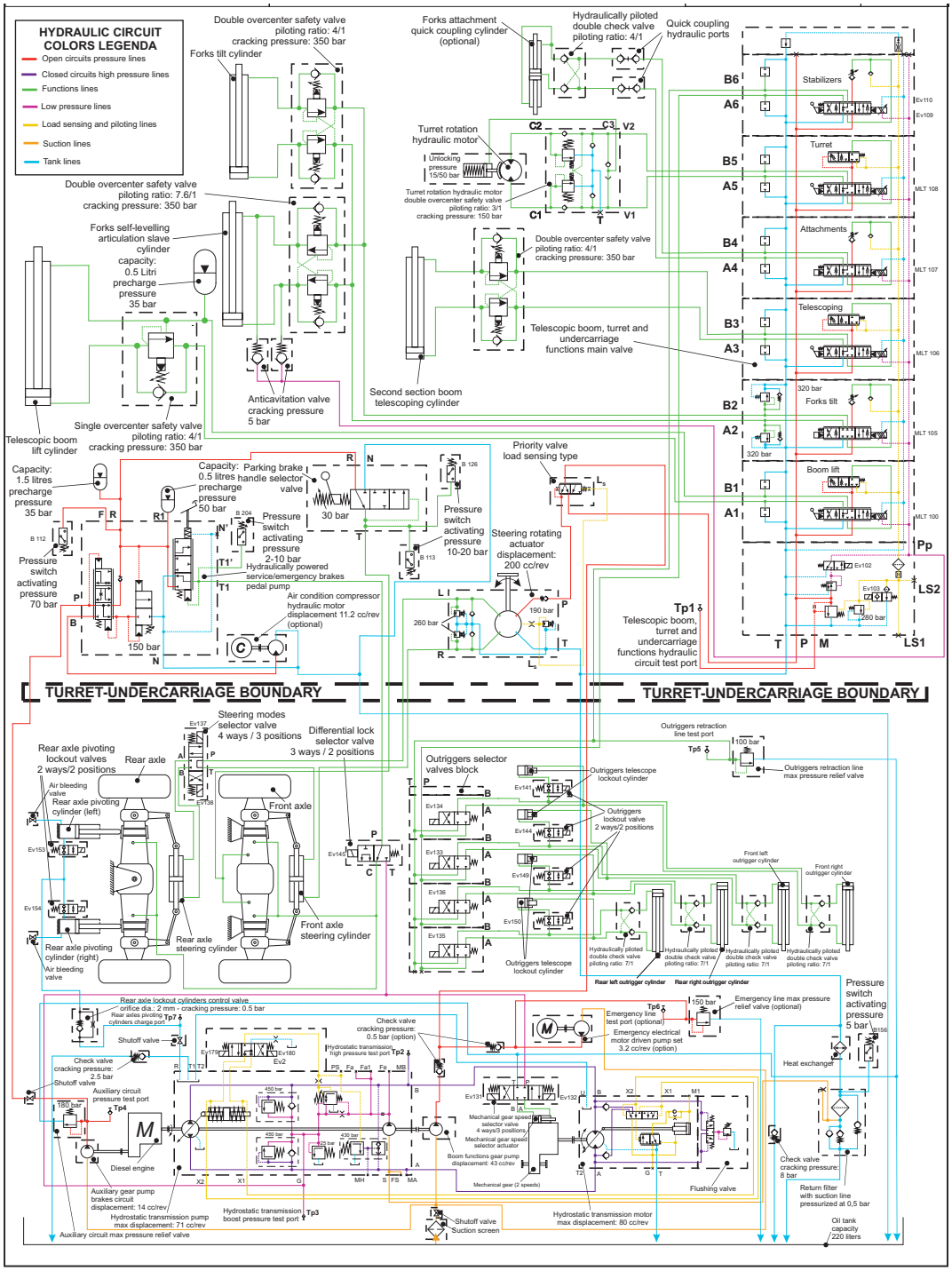
Diagrams and Schemes

GTH-4016 SR HYDRAULIC DIAGRAM



Diagrams and Schemes

■ GTH-4018 SR HYDRAULIC DIAGRAM



Warranty

LIMITED PRODUCT WARRANTY

Genie Industries ("Seller") warrants its new equipment manufactured and sold worldwide, to be free, under normal use and service, of any defects in manufacture or materials for the following time periods, commencing on the date on which such equipment is invoiced to the original purchaser or the date on which such equipment is first put into service, whichever occurs first:

- with respect to **structural elements: 5 years**;
- with respect to **electrical componentry: 2 years**
- with respect to **hydraulic componentry (except as provided below): 2 years**
- with respect to **o-rings, seals, hoses and brakes: 1 year**

provided that:

1. Seller receives written notice of the defect within fourteen (14) days of its discovery and Buyer establishes that
   i. the equipment has been maintained and operated within the limits of rated and normal usage
   ii. the defect did not result in any manner from the intentional or negligent action or inaction by Buyer, its agents or employees
2. a new machine registration certificate has been completed, signed and delivered to Seller within fourteen (14) days of the equipment's "in-service" date.

If requested by Seller, Buyer must return the defective equipment to Seller's manufacturing facility, or other location designated by Seller, for inspection, and if Buyer cannot establish that conditions (1) (i) and (1) (ii) above have been met, then this warranty shall not cover the alleged defect.
Delivery inspection certificates are required to be completed, signed and delivered to Seller within one hundred twenty (120) days of the equipment's "in-service" date and on file with Seller's service department for warranty validation and processing.
Seller's obligation and liability under this warranty is expressly limited to, at Seller's sole option, repairing or replacing, with new or remanufactured parts or components, any part, which appears to Seller upon inspection to have been defective in material or workmanship.
Such parts shall be provided at no cost to the owner, FOB Seller's parts facility.
If requested by Seller, components or parts for which a warranty claim is made shall be returned to Seller at a location designated by Seller. All components and parts replaced under this limited product warranty become the property of Seller.
This warranty shall be null and void if parts (including wear parts) other than genuine OEM Seller parts are used in the equipment.
Accessories, assemblies and components included in the Seller equipment, which are not manufactured by Seller, are subject to the warranty of their respective manufacturers.
Normal maintenance, adjustments, or maintenance/wear parts, including without limitation, glass, clutch and brake linings, filters, wire rope and paint, are not covered by this warranty and are the sole maintenance responsibility of Buyer.



Seller makes no other warranty, express or implied, and makes no warranty of merchantability or fitness for any particular purpose.

Seller's obligation under this warranty shall not include duty, taxes, environmental fees, including without limitation, disposal or handling of tires, batteries, petrochemical items, or any other charges whatsoever, or any liability for direct, indirect, incidental, or consequential damages.
Improper maintenance, improper use, abuse, improper storage, operation beyond rated capacity, operation after discovery of defective or worn parts, accident, sabotage or alteration or repair of the equipment by persons not authorized by Seller shall

Warranty

render this warranty null and void.
Seller reserves the right to inspect the installation of the product and review maintenance procedures to determine if the failure was due to improper maintenance, improper use, abuse, improper storage, operation beyond rated capacity, operation after discovery of defective or worn parts, or alteration or repair of the equipment by persons not authorized by Seller.



NO TRANSFERABILITY OF WARRANTY: This warranty is limited to the original end-user and is not assignable or otherwise transferable without the written agreement of Seller.

ITEMS NOT COVERED BY SELLER WARRANTY

The following items are not covered under the seller warranty (the following list is not Exhaustive):

1. Lamps, lenses, filters, consumable items, utility trailer decks, shop supplies.
2. Items sold by any individual, corporation, partnership or any other organization or legal Entity that is not an authorized seller distributor.
3. Components which are not manufactured by seller are not covered by seller's warranty. Such components are covered only by the warranty, if any, that is provided by the Manufacturer of such components. Such components may include, but are not limited to, Engines, batteries, tires, customer-supplied products, transmissions, generators/gensets, Axles.
4. **Replacement of Assemblies**: seller has the option to repair or replace any defective part or assembly. It is seller's policy to refuse claims for the replacement of a complete assembly that is field repairable by the replacement or repair of defective part(s) within the assembly.
5. **Normal Operational Maintenance Services and Wear Parts**: maintenance services and wear parts are excluded from warranty claims. Maintenance services and wear parts **not covered** include, but are not limited to, such items as: seals, gaskets, hoses, glass, clutch and brake linings, wire rope, exterior coatings, proper tightening of bolts, nuts and fittings, adding or replacing of fluids, breathers, belts, nozzles, adjustments of any kind, services supplies such as lubricants, inspections, diagnostic time, travel time.
6. **Transportation Cost and/ or Damage**: any damage caused by carrier handling is a transportation claim and should be filed immediately with the respective carrier.
7. **Deterioration**: repairs, work required or parts exposed as the result of age, storage, weathering, lack of use, demonstration use, or use for transportation of corrosive chemicals.

Warranty

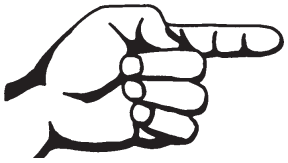
8. **Secondary Failures**: should the owner or operator continue to operate a machine after It has been noted that a failure has occurred, seller will not be responsible under the warranty for resultant damage to other parts due to that continued operation.
9. **Workmanship of Others**: seller does not accept responsibility for improper installation or labor costs or costs of any kind from personnel other than personnel authorized by seller.
10. **Stop and Go Warranty**: seller does not recognize "stop and go" warranties.
11. **Incidental or Consequential Damage**: **SELLER SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND, INCLUDING, BUT NOT LIMITED TO, LOST PROFITS, LOSS OF PRODUCTION, INCREASED OVERHEAD, LOSS OF BUSINESS OPPORTUNITY, DELAYS IN PRODUCTION, COSTS OF REPLACEMENT COMPONENTS AND INCREASED COSTS OF OPERATION THAT MAY ARISE FROM THE BREACH OF THIS WARRANTY**. Customer's sole remedy shall be limited to (at seller's sole option) repair or replacement of the defective part.

THIS WARRANTY IS EXPRESSLY IN LIEU OF AND EXCLUDES ALL OTHER WARRANTIES, EXPRESS OR IMPLIED (INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE) AND ALL OTHER OBLIGATIONS OR LIABILITY ON SELLER'S PART. THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE LIMITED WARRANTY CONTAINED HEREIN.

Seller neither assumes nor authorizes any other person to assume for seller any other liability in connection with the sale of seller's equipment. This warranty shall not apply to any of seller's equipment or any part thereof which has been subject to misuse, alteration, abuse, negligence, accident, acts of god or sabotage.

No action by any party shall operate to extend or revive this limited warranty without the prior written consent of seller. In the event that any provision of this warranty is held unenforceable for any reason, the remaining provisions shall remain in full force and effect.

IN THE EVENT OF ANY BREACH OF THE WARRANTY BY SELLER, SELLER'S LIABILITY SHALL BE LIMITED EXCLUSIVELY TO THE REMEDIES (AT SELLER'S SOLE OPTION) OF REPAIR OR REPLACEMENT OF ANY DEFECTIVE EQUIPMENT COVERED BY THE WARRANTY. IN NO EVENT SHALL SELLER, OR ANY SUBSIDIARY OR DIVISION THEREOF BE LIABLE FOR INCIDENTAL, INDIRECT, CONSEQUENTIAL OR OTHER DAMAGES OR LOSSES RESULTING FROM A BREACH OF WARRANTY INCLUDING, WITHOUT LIMITATION, LABOR COSTS, LOSS OF USE OF OTHER EQUIPMENT, THIRD PARTY REPAIRS, LOST PROFITS, LOST TIME, TOWING OR HAULING OF EQUIPMENT, RENTAL COSTS, PERSONAL INJURY, EMOTIONAL OR MENTAL DISTRESS, IMPROPER PERFORMANCE OR WORK, PENALTIES OF ANY KIND, LOSS OF SERVICE OF PERSONNEL, OR FAILURE OF EQUIPMENT TO COMPLY WITH ANY FEDERAL, STATE OR LOCAL LAWS.



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Genie® A TEREX COMPANY

WARRANTY - HANDING OVER CERTIFICATE

Warranty is subject to delivery according to the regulation and the submission of this certificate to TEREXLIFT s.r.l.

Model	Serial Number	Delivery date	Dealer's stamp and signature
_____	_____	_____	

We hereby acknowledge that we received the machine in perfect condition, as well as the Operator's Manual.

DATAS OF THE OWNER:

Name: _____

City: _____ Address: _____

Postal Code: _____ Country: _____

Telephone:_____ Telefax: _____

Signature: _____

Note

_____

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Client's Copy

Genie® A TEREX COMPANY

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Signature: _____

Note

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TEREXLIFT Copy