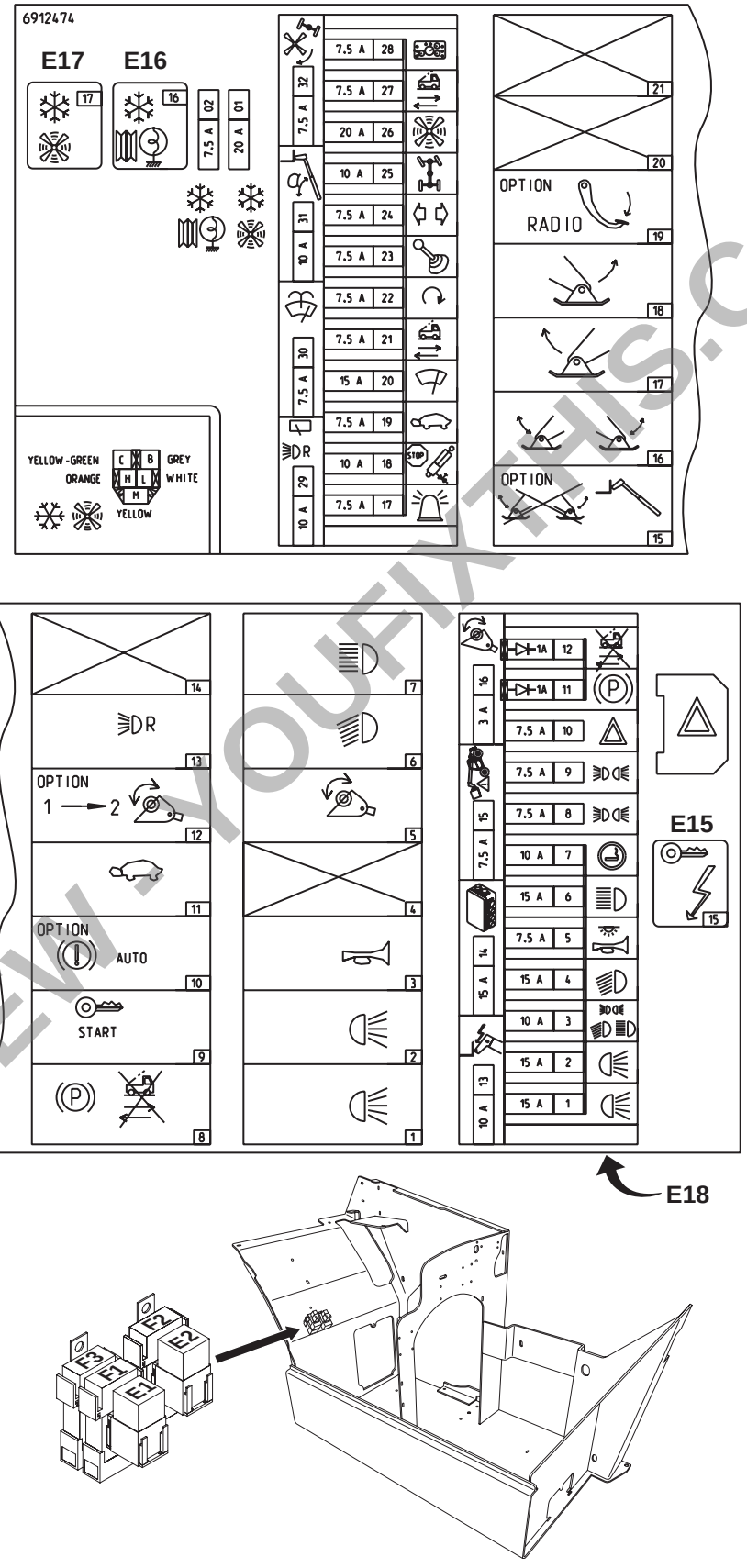
Fuses, Diodes And Relay Drawing

Figure 81



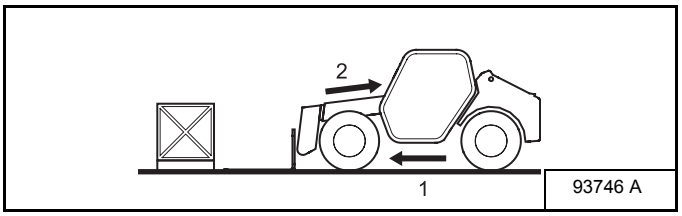
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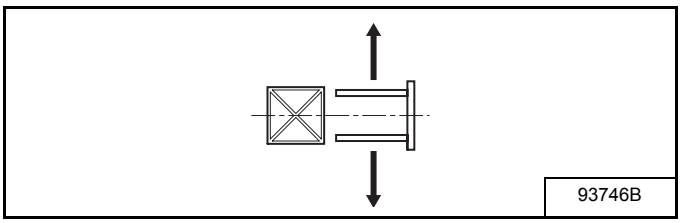
Picking A Load From The Ground

Figure 38



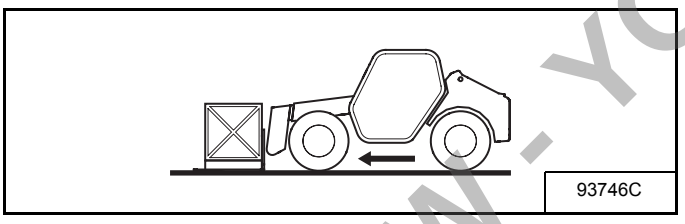
1. Move the machine perpendicular to the load with the telescopic boom fully retracted and the forks parallel to the ground.

Figure 39



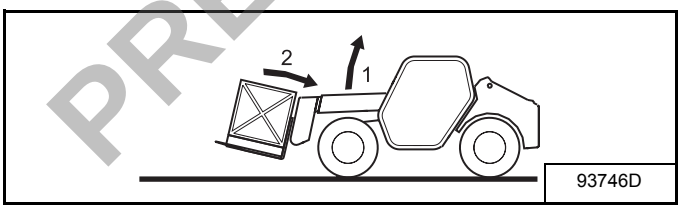
2. Adjust the fork clearance and their centering in relation to the load.
3. Adjust the height of the forks so that they can slide under the load.

Figure 40



4. Move the machine forward or extend the boom to bring the heel of the forks in contact with the load.
5. Engage the handbrake and put the gear lever into neutral.

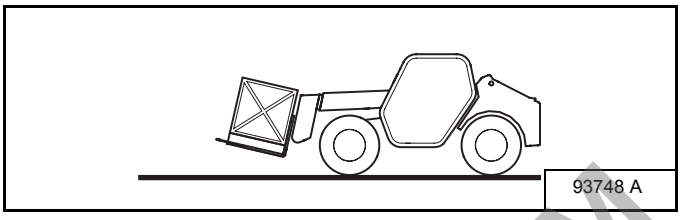
Figure 41



6. Raise the boom so that the load is approximately 12 to 20 inch above groundlevel, tilt the forks fully backwards and retract the boom fully. The machine is then in the transport position.

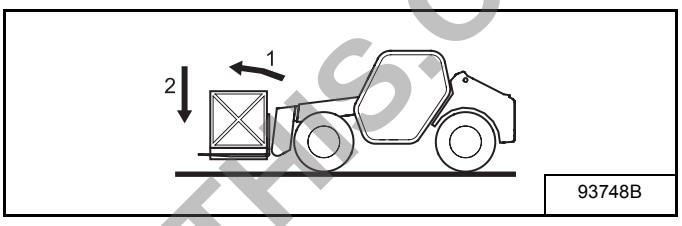
Placing A Load On The Ground

Figure 42



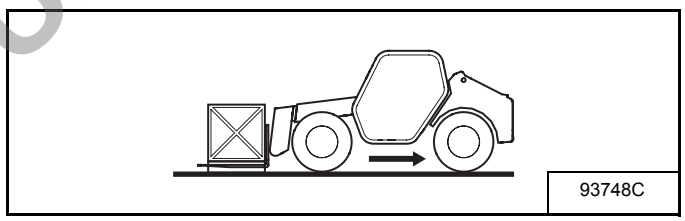
1. Move the load from the place and into the position where it is to be placed.

Figure 43



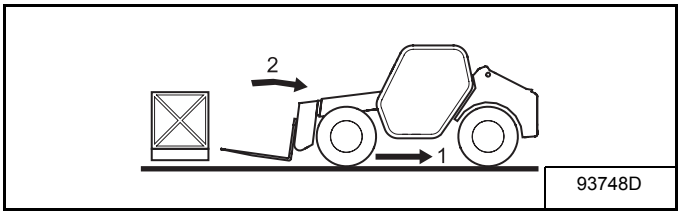
2. Tilt the forks into a position parallel to the ground.
3. Lower the load until it is resting on the ground and the forks are no longer in contact with the load.

Figure 44



4. Move the machine back in order to release the forks from the load completely.

Figure 45



5. Return the boom and the forks to the transport position.

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Dimensions and weights

Dimensions

With DUNLOP 400/70 - 20 T37 150B tyres and rigid palletiser + forks.

Figure 147

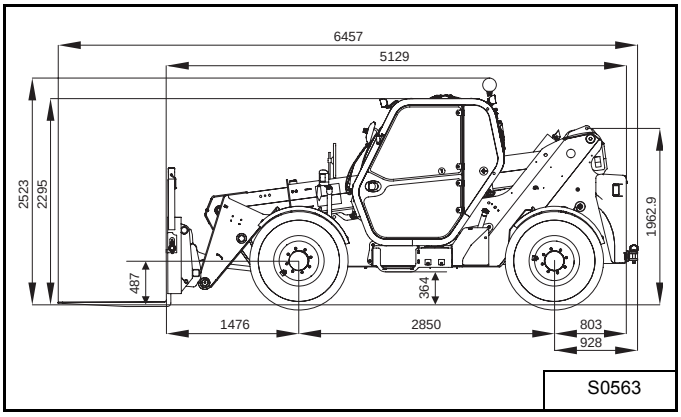


Figure 148

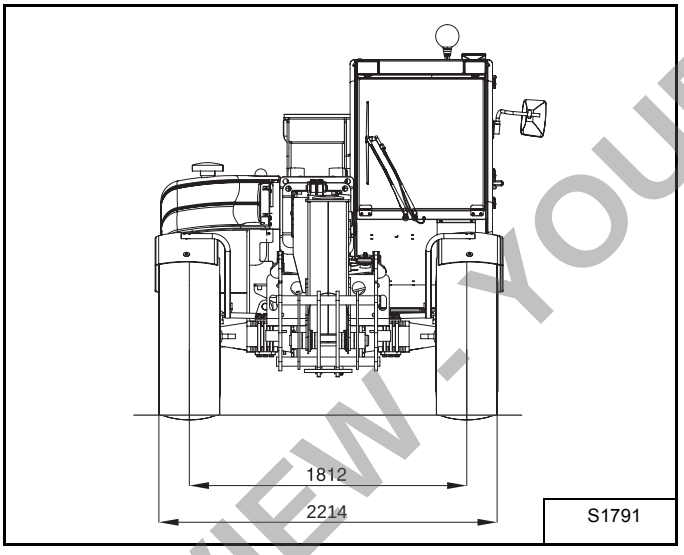


Figure 149

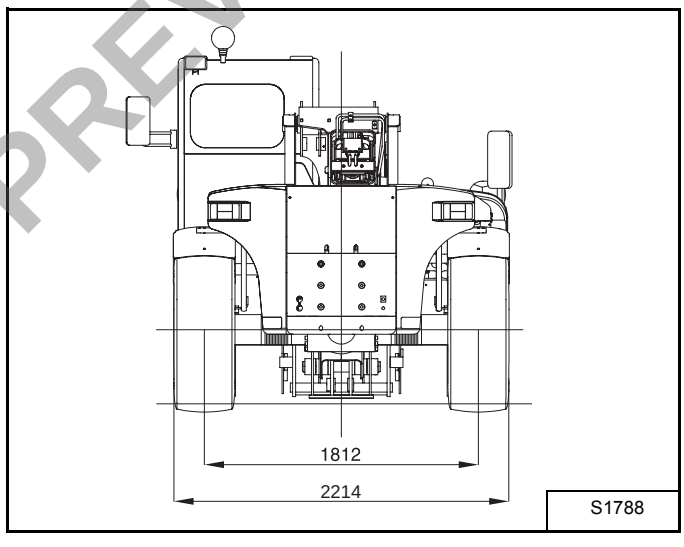
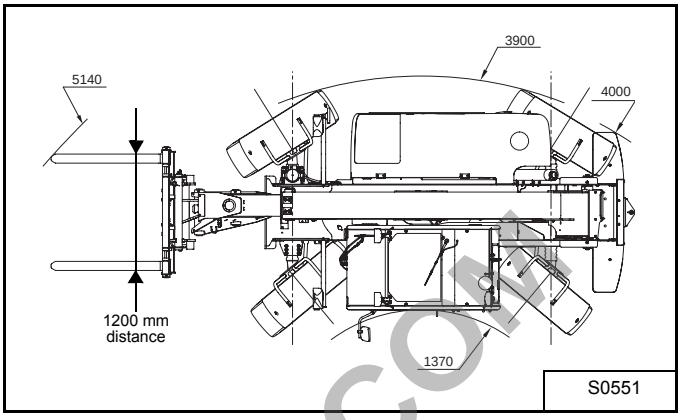


Figure 150



Reach

Maximum reach from the vertical plane in front of the front wheels, machine fitted with DUNLOP 400/70 - 20 T37 150B tyres.

Reference	Value
Telescope fully retracted	1.72 m
Telescope fully extended	4.06 m

Height

Height of lift from the ground in front, machine equipped with DUNLOP 400/70 - 20 T37 150B tyres.

Reference	Value
Telescope fully retracted	5.05 m
Telescope fully extended	7.12 m

Weights

Data with boom in transport position, all tanks full, with no driver and DUNLOP 400/70 - 20 T37 150B tyres.

Machine	Weight (Kg)		
	Total	On front axle	On rear axle
With no attachment	6.940	2.870	4.070
With palletiser and forks	7.250	3.330	3.920
With 3,500 kg load	10.750	9.305	1.415

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Maintenance Interval

Maintenance operations should be carried out according to the intervals defined in the table below.

⚠ WARNING

Depending on the working conditions under which you operate the machine, the recommended interval must be reduced in order to keep the machine properly maintained and to prevent possible damage, malfunctions or accidents. These conditions are (non-exhaustive list) in particular: dusty environment, humid atmosphere, muddy environment, abrasive environment

Operation	Page	Hours					
		10	50	200	500 (3)	750 (4)	1000 (4)
Diesel engine							
Cleaning the air filter's main cartridge (6)	p. 53						
Replacing the air filter's main cartridge (6)	p. 53						
Replacing the air filter's safety cartridge (6)	p. 53						
Checking the cooling fluid level	p. 56						
Checking the cooling fluid	p. 56						
Checking the radiators are clean	–						
Checking the engine oil level	p. 55						
Draining and changing oil and filter of the engine	p. 55						
Replacing the lubricating oil filter cartridge	p. 56						
Checking the state and tension of the alternator belt (2)	p. 57						
Replacing the fuel filter cartridge (7)	p. 54						
Hydraulic system							
Checking the hydraulic oil level	p. 61						
Draining and changing the hydraulic oil	p. 62						
Replacing the hydraulic filter cartridge	p. 63						
Replacing the hydraulic oil tank vent valve	p. 62						
Checking the tightness of hydraulic lines and connections	p. 62						
Mechanical transmission							
Checking the condition of tyres	p. 63						
Checking the tyre pressure	p. 63						
Checking the tightness of wheel nuts (1)	p. 63						
Checking the vent valves on the two axles are clean	p. 63						
Lubricating the rear axle rolling element bearings	p. 64						
Lubricating the axle steering pivots	p. 64						
Checking the oil level in the front axle central casing	p. 64			monthly			
Checking the oil level in the reducer box	p. 65			monthly			
Checking the oil level in the rear axle central casing	p. 65			monthly			
Checking the oil level on both axles' gear reducers	p. 65						
Draining and changing the oil in the front axle central casing (3)	p. 66						
Draining and changing the oil in the reducer box (3)	p. 66						
Draining and changing the oil on the rear axle central casing (3)	p. 66						
Draining and changing the oil on two axles gear reducers (3)	p. 67						
Structure							
Cleaning dust out of the cab filter	p. 52						
Replacing the cab filter	p. 52						
Lubricating the hinge pins	p. 68						
Lubricating the boom's guide rail shoes	p. 68						
Checking the tightness of screws and bolts	–						
Checking wear on the boom's guide rail shoes	–						
Checking wear on flanges and hinge pins	–						
Electrical system							
Checking the battery fluid level	p. 58						
Checking the condition of fuses, diodes and relays	p. 58						
Checking the working order of controls, lighting and signalling	p. 58						
Checking the working order of indicator lights, indicators and controls	p. 58						
Checking the condition of electric connections	p. 58						

* For more information see **"Lubrication drawing For The VR723" on page 68**.

(1) Check wheel nut torque every 8 hours for the first 24 hours.
(2) First maintenance after 50 hours then according to the table.
(3) Or every 6 months.
(4) Or every 12 months.
(5) Frequency may vary in certain dusty environments.
(6) To be replaced after 250 hours if the fuel filter bowl is badly fouled.

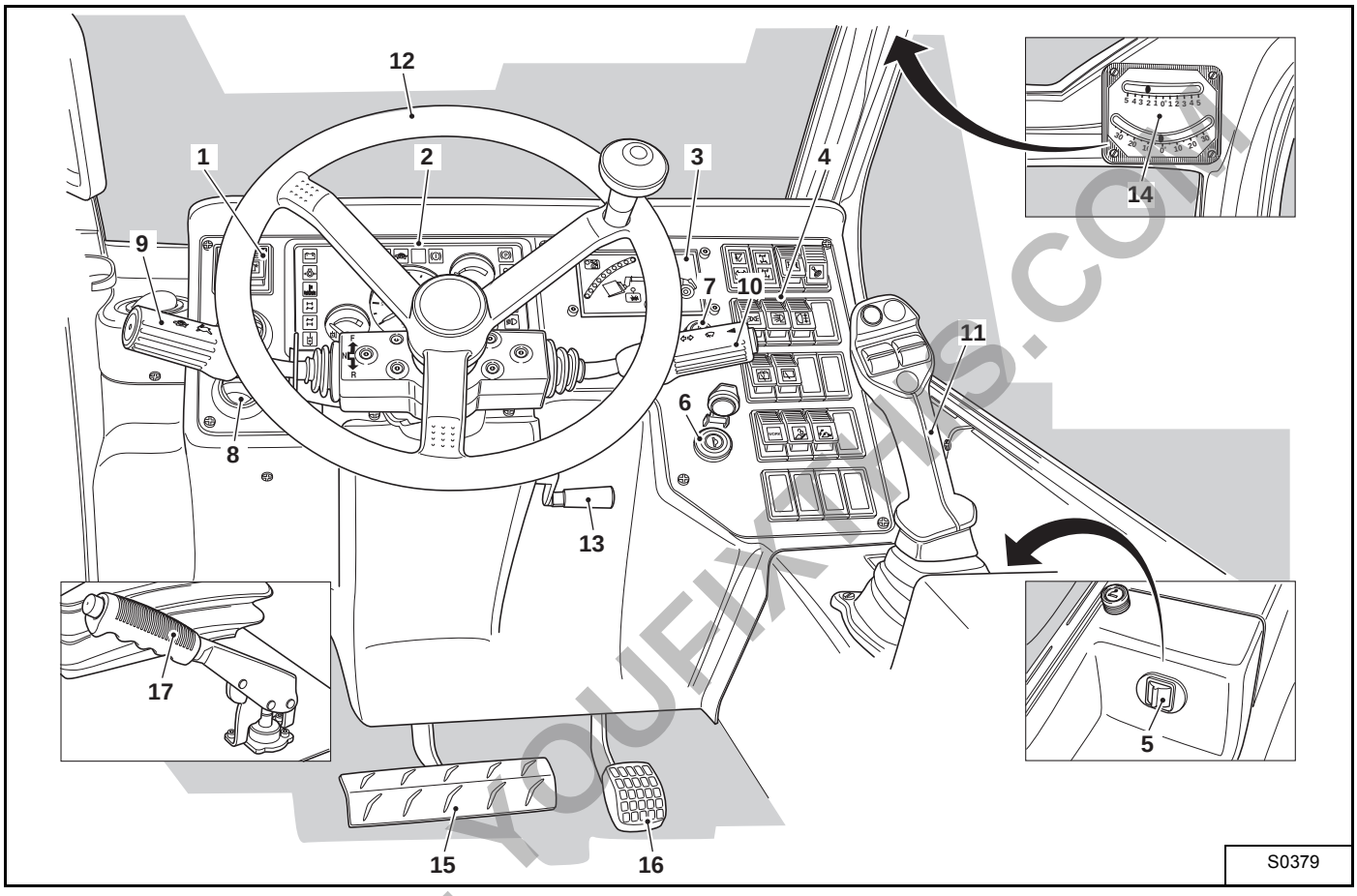
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Controls And Indicators

The main controls and indicators are shown in the figure below.

Figure 8



Reference	Designation	See
1	Controls for the hazard warning light and rotating beacon	p. 27
2	Multi-function dial	p. 22
3	Right console	p. 24
4	Control for frame leveling	p. 29
5	Key Switch	p. 30
6	Cab heating and defogging control	p. 32
7	Left multi-function lever	p. 26
8	Right multi-function lever	p. 26
9	Boom function control joystick	p. 27
10	Steering wheel	p. 31
11	Steering wheel tilt adjustment	p. 31
12	Frame level indicator	p. 29
13	Brake and slow advance pedal	p. 31
14	Accelerator pedal	p. 31
15	Handbrake	p. 32

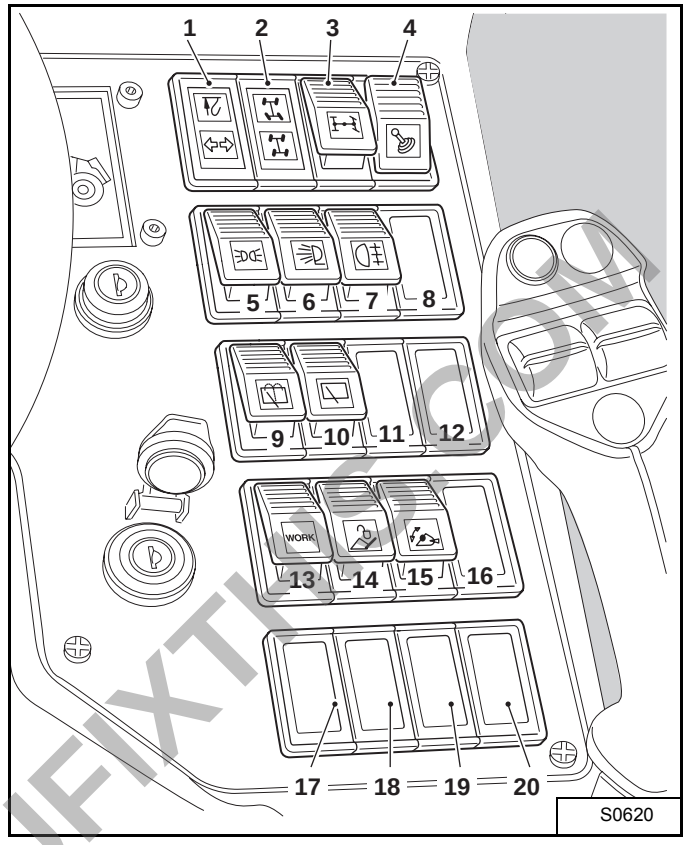
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Right Console

Figure 10

This multi-function dial comprises 2 indicators and 13 switches with indicator lights.



Reference	Icon	Description	Function
1		**Trailer turn indicator**	Green indicator light with symbol. The light flashes when the trailer's turn indicators are lighted. The red indicator light is not used on this model.
2		**Steering mode indicator**	Green indicator lights with symbols: • upper part on: parallel running mode selected. • lower part on: 4-wheel steering mode selected. • upper and lower part off: 2-wheel steering mode (front wheels) selected.
3		**Steering mode**	With green indicator light and symbol. 3-position toggle switch: • down position: parallel running mode selected. This mode is used in narrow areas, to move away from buildings or to reposition the machine. • central position: 2-wheel steering mode (front wheels) selected. This mode is used when driving at higher speeds. • up position: 4-wheel steering mode selected. This is the mode used under most circumstances. **Before changing the steering mode, return all 4 wheels parallel to the longitudinal axis of the machine. The correct positions are indicated by indicator lights in the multi-function dial.** **Select the steering mode best suited to the operations to be carried out.** **Only change the steering mode when the machine is stopped.**
4		**Hydraulics control lockout**	With green indicator light and symbol. 2-position toggle switch: • down position to activate the boom's hydraulic functions. In this position, the indicator light is on. • up position: deactivates the boom's hydraulic functions. Used to deactivate all functions of the hydraulic control lever (joystick) during travel on the road.

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Attachment Lock

This device enables the attachment to be locked to the hook-up. It is available in two versions:

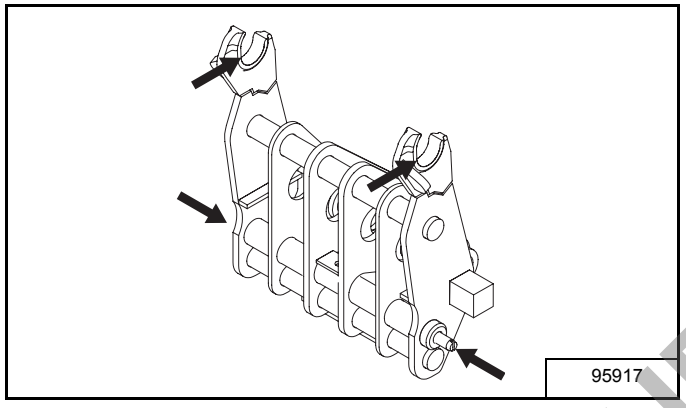
- Manual lock: standard version
- Hydraulic lock

Hydraulic Lock

Description

The hook-up includes the following:

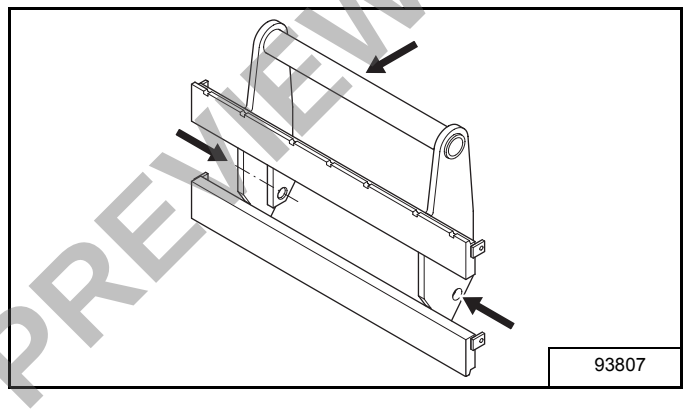
Figure 104



- two hooks on top.
- A locking bar on each side at the bottom. These bars are kept in place by spring locks. A hydraulic cylinder with two feed hoses retracts the two bars in order to unlock the attachment.

Each attachment includes the following:

Figure 105

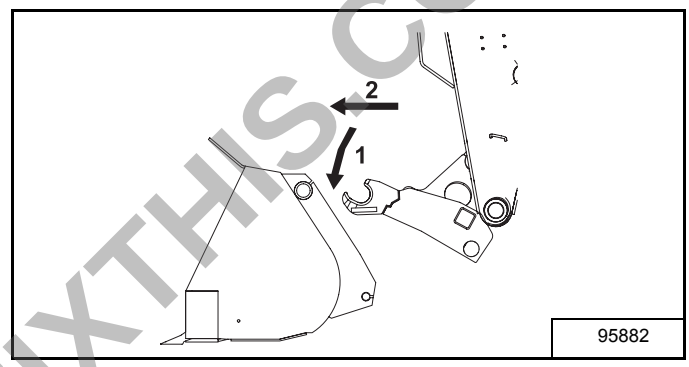


- A pipe on top.
- Two holes below.

Operation

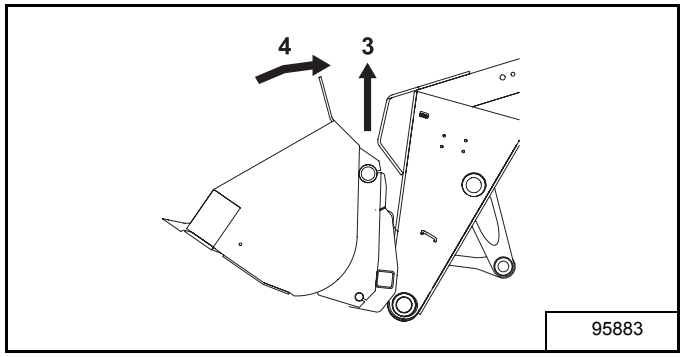
1. Drive the machine forward, with the telescope fully retracted, so that the hook-up is less than 1 m from the attachment and perpendicular to it. The two hoses on the locking cylinder must be connected to the hydraulic quick couplers on the boom head.
2. Engage the parking brake and put the transmission lever into neutral.

Figure 106



3. Tilt the hook-up forwards so that the hooks are lower than the attachment pipe (1) **[Figure 106]**.
4. Extend the telescope so that the hooks are right below the attachments pipe (2) **[Figure 106]**.

Figure 107



5. Raise the boom in order to engage the attachment pipe in the hooks; tilt the hook-up if necessary (3) **[Figure 107]**.
6. When the pipe is properly engaged in the 2 hooks and the attachment is no longer touching the ground, tilt the bracket fully backwards (4) **[Figure 107]**.
7. Press the extra hydraulic function switch on the joystick to insert the two locking bars and release it once the attachment is installed.

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Safety Instructions For Transporting And Hauling

DO NOT attempt to load the Variable Reach Telescopic Material Handler onto the transporter without knowledge and experience with the operation of the telescopic material handler.

ALWAYS use a ramp when loading the Variable Reach Telescopic Material Handler onto the transporter. Be sure ramps are of adequate strength, low angle, and proper height.

Use proper chock blocks in front and rear of the wheels of the transporter when loading the Variable Reach Telescopic Material Handler.

Be sure to approach the transporter loading ramps squarely to make sure the telescopic material handler does not drop off the side of the ramp.

Keep the transporter deck clean of clay, oil, ice, frost, or any other material that can become slippery.

Use proper chock blocks in front and rear of the Variable Reach Telescopic Material Handler wheels.

Shut the engine OFF, apply the parking brake, and lock all lockable compartments.

ALWAYS know the overall height of the telescopic material handler and hauling vehicle. Observe height

and weight regulations and overhead objects to be sure you can safely pass beneath them.

When roading your Variable Reach Telescopic Material Handler on a public access, obey all traffic regulations and be sure that the proper clearance flags, lights, and warning signs, including the Slow Moving Vehicle emblem, are properly displayed. Know your approximate stopping distance at any given speed. NEVER turn corners at excessive speeds. Look in all directions before reversing your direction of travel.

A loose telescopic material handler can shift or fall while being transported.

Tie down the machine securely before moving the hauling vehicle or transporter.

1. Position the telescopic material handler on the transporter or hauling vehicle centered from side to side and apply the parking brake.
2. With adequate chains or cables and blocks, secure the machine to the deck of the hauling vehicle or transporter to meet ICC or local regulations.

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Fuses And Diodes

[Figure 81]

Reference	Gauge	Function protected
1	15 A	Front work lights
2	15 A	Rear work lights
3	10 A	Lighting and full-beam control
4	15 A	Headlamps
5	7.5 A	Road alarm and ceiling light
6	15 A	Full-beam
7	10 A	Cigarette lighter
8	7.5 A	Left side-lights
9	7.5 A	Right side-lights
10	7.5 A	Hazard warning lights
11	DIODE 1 A	Parking brake
12	DIODE 1 A	Advance safety if parking brake tight
13	10 A	Second hydraulic function on boom (option)
14	15 A	Joystick control box
15	7.5 A	Stability indicator and fuel pump
16	3 A	Hydraulic function on boom
17	7.5 A	Rotating beacon (option)
18	10 A	Brake lights, rear hydraulic options, stop lights
19	7.5 A	Slow travel speed
20	15 A	Front wiper
21	7.5 A	Transmission control box supply
22	7.5 A	Engine cutoff
23	7.5 A	Joystick supply
24	7.5 A	Direction indicators
25	10 A	Steering mode control
26	20 A	Heating fan
27	7.5 A	Direction of travel
28	7.5 A	Instrument panel supply
29	10 A	Reversing light and roof windscreen wiper (option)
30	7.5 A	Rear windscreen wiper: Rear windscreen and roof washer
31	10 A	Boom angle measurement
32	7.5 A	Fan direction reversing (option) correction
01	20 A	Air conditioning fan (option)
02	7.5 A	Air conditioning compressor (option)
F01	50 A	permanent line (+)
F02	40 A	Permanent line (+) by contact key
F03	70 A	Glow plugs

Relays

[Figure 81]

Reference	Function performed
1	Front work lights
2	Rear work lights
3	Road horn
4	Blue lights (option)
5	Hydraulic function on boom
6	Headlamps
7	Full-beam
8	Advance safety if parking brake tight
9	Starting safety if transmission is in gear
10	Not used
11	Slow travel speed
12	Second hydraulic function on boom
13	Backup lights / backup alarm
14	Not used
15	Prevent raising of the stabilisers
16	Stabilisers
17	Raise left stabiliser
18	Raise right stabiliser
19	Radio control for acceleration of the engine
20	Not used
21	Not used
E01	Glowplugs
E02	Starter control
E15	12V power relay after contact
E16	Air conditioning compressor (option)
E17	Air conditioning fan (option)
E18	Center for the directional signals (located beneath the fuse box)

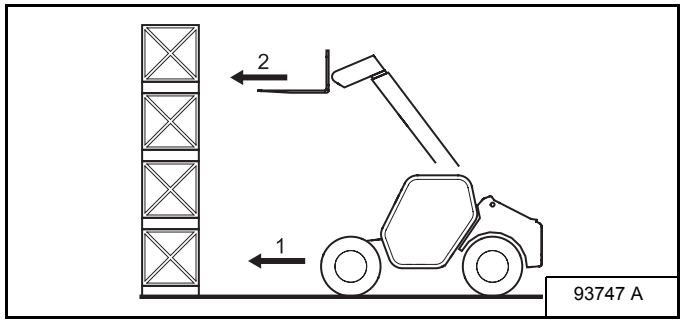
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Picking Up A Raised Load

1. Make sure before the maneuver that the forks can easily slide under the load to be taken and that their clearance and centering in relation to the load is correct.

Figure 46

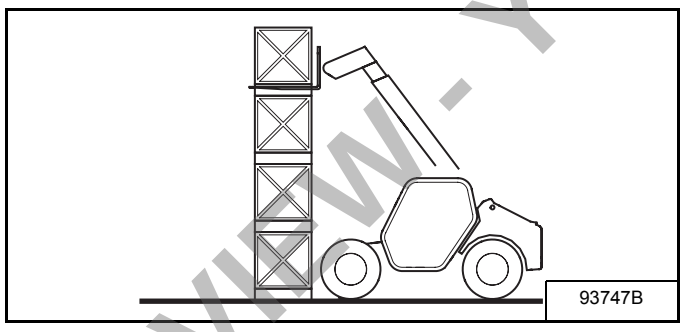


2. Move the machine perpendicularly to the load with the forks horizontal to at the height of the load.

⚠ WARNING

Make sure you leave the necessary distance to slide the forks entirely under the load, between the front of the machine and the pile of loads, using only the minimum length of the telescopic boom.

Figure 47



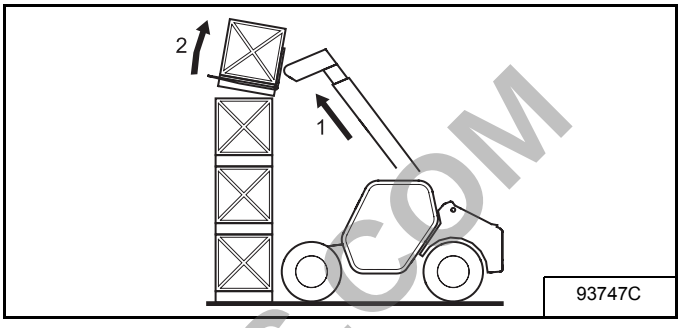
3. Move the machine forward as slowly as possible until the heel of the forks is in contact with the load.

⚠ WARNING

Do not knock against the load with the forks or the stack with the machine.

4. Engage the handbrake and put the gear lever into neutral.

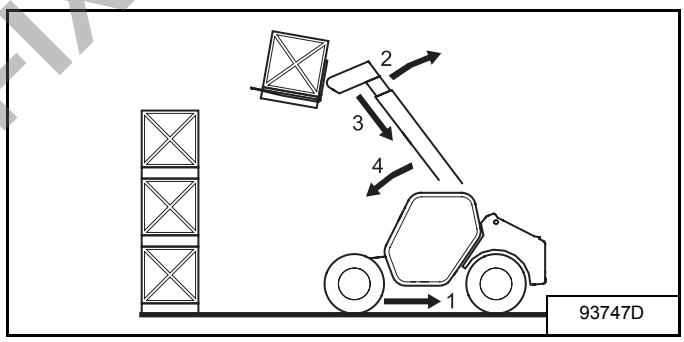
Figure 48



5. Raise the boom slightly and tilt forks partially backwards to stabilize the load.

6. Put the gear lever into reverse and release the handbrake.

Figure 49



7. Move the machine back as slowly as possible so as to release the load on top of the stack, in such a way that the boom can be lowered without the load touching the pile.

8. Retract the telescopic boom fully.

9. Lower the boom until the load is approximately 12” (300 mm) to 20” (500 mm) above ground-level. Then tilt the forks fully backwards. The machine is then in the transport position.

⚠ WARNING

All boom movement or machine displacement maneuvers with a raised load must be carried out with the greatest care and as slowly as possible.

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Engine and transmission

Engine turbocharger

Reference	Value
Manufacturer	PERKINS
Model	1104C-44T
Type / cycle	Diesel / 4
Pressure-charging	Turbo-Charger
Number and layout of cylinders	4 in line
Bore x stroke / displacement	4.13” x 5.00” / 1.16 gals (4400 cm³)
Horsepower, Maximum	74.5 kW (99 HP) at 2200 min^{-1} per ISO TR 14396
Torque, Maximum	304 ft.-lbs. (412 Nm) at 1400 min^{-1} per ISO TR 14396
Cooling system	fluid
Fuel	Diesel oil
Type of injection	Direct injection

Hydrostatic transmission

Hydrostatic transmission in reversible closed circuit with pump and engine with variable cylinder capacity and electronic control.

Reference	Pump	Engine
Manufacturer	SAUER SUNDSTRAND	SAUER SUNDSTRAND
Model	90R075	51D160
Displacement	variable from 0 to 75 cm³	variable from 160 to 45 cm³
Maximum operating pressure	480 bar	480 bar

Speed range	On-site	Road
With 20” tyres	7 km/h (4 mph)	25 km/h
With 24” tyres	8 km/h (4 mph)	30 km/h

Mechanical transmission

Mechanical transmission with 4 wheel drive and transfer gear box, two axles and drive shaft between the axles.

Reference	Value
Transfer box	
Manufacturer	DANA
Model	Type 603
Position	built into the front axle
Number of gears	1

Reference	Front axle	Rear axle
Manufacturer	DANA	DANA
Model	603/212 - 65	222 - 51
Differential	with limited slip 40%	standard
Gear reducer	epicycloides	epicycloides

Steering

Hydrostatic assisted steering with gear pump (maximum operating pressure = 250 bar) and priority valve. Three possible driving modes:

- Front wheel steering
- Four wheel steering
- Parallel drive (crab-style)

Hydraulic System

The hydraulic system is supplied by a 43 cc gear pump (maximum working pressure = 265 bars) and a 4 element distributor unit hydraulically and electrically controlled by joystick.

Telescopic boom

Consists of 3 elements sliding into one another and driven by a double acting cylinder in synchronisation.

Fitted at the end with a bracket to which the machine's attachments can be fixed.

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Regular Maintenance Items

For parts required for normal maintenance of the machine, consult your dealer who has the catalogue of spare parts for your machine.

⚠ WARNING

Only use guaranteed genuine IR parts for the maintenance of the machine.

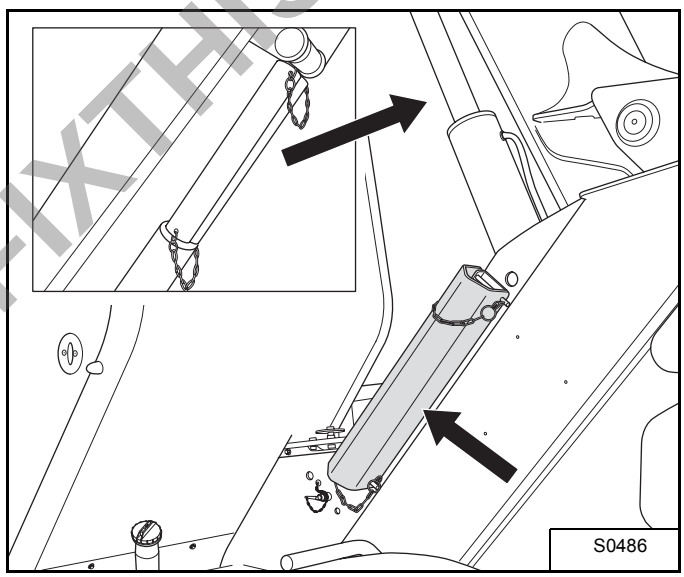
Approved Boom Stop

If the boom is raised for service or maintenance, use the following procedure to install and remove the boom stop.

Installing The Approved Boom Stop

1. Put the telescopic handler on a flat, solid and level surface.
2. With the operator in the seat, the restraint bar lowered, (if equipped) seat belt fastened, Travel Direction Control in neutral and the parking brake engaged, start the engine and raise the boom. Stop the engine.
3. Have a second person remove the boom stop from the storage position.

Figure 64



4. Install the boom stop over the rod of the boom cylinder **[Figure 64]**.
5. Install the pins and secure the fasteners [Figure 10-150-2].
6. Start the engine and lower the boom slowly [Figure 10-150-2] so that the boom stop is held securely.

Removing The Approved Boom Stop

1. Start the engine lower the restraint bar (if equipped) and raise the boom. Stop the engine.
2. Remove the fasteners, pins and boom stop.
3. Put the boom stop in the storage position and secure with pins and fasteners.
4. Start the engine lower the restraint bar (if equipped) and lower the boom

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