Service Manual

Dumper

2001



Machine model	**2001**
Edition	**1.0**
Language	**English**
Article number	**1000154504**

MidWestTech | Wacker Neuson 2001 Dumper Service Manual | Publication 1000154504

Order the manual at mid-west-tech.com >

Operation

Important information on this service manual 1-1
Identification of warnings and dangers 1-2
Designated use and exemption from liability 1-3
Type labels and component numbers 1-4
Machine: overview 1-6
Machine overview: legend 1-6
Operating equipment: overview 1-7
Operating equipment: legend 1-7
Maintenance prop 1-8
Articulated prop 1-9

Specifications

Chassis 2-1
Engine 2-1
Engine capacities 2-2
Engine tightening torques 2-2
Travelling drive 2-2
Brakes 2-2
Steering system 2-2
Work hydraulics 2-3
Loader unit 2-3
Drive specifications 2-3
Electric system 2-4
Fuse box 2-4
Relays 2-4
Tyres 2-5
Noise levels 2-5
Coolant compound table 2-5
General tightening torques 2-6
Tightening torques for hydraulic screw connections (dry assembly) 2-6
Tightening torques for high-resistance screw connections 2-8
Tightening moments for Nordlock lock washers 2-9
Dimensions model 2001 2-10

Maintenance

Fluids and lubricants 3-1
Maintenance plan (overview) 3-2
Service package 3-5
Introduction 3-5
Fuel system 3-6
Specific safety instructions 3-6
Refuelling 3-6
Stationary fuel pumps 3-7
Diesel fuel specification 3-7
Bleeding the fuel system 3-7
Fuel prefilter with water separator 3-8
Replacing the fuel filter 3-9
Engine lubrication system 3-10
Checking the oil level 3-10
Filling up engine oil 3-11
Changing engine oil 3-12
Replacing the engine oil filter cartridge 3-13
Cooling system 3-14
Specific safety instructions 3-14
Checking/filling up coolant 3-15
Draining coolant 3-16

MidWestTech | Wacker Neuson 2001 Dumper Service Manual | Publication 1000154504 Order the manual at mid-west-tech.com >

Air filter ... 3-17
Weekly check of air filter contamination ... 3-17
Replacing the filter ... 3-18
Functional check once a week of the dust valve ... 3-19
V-belt ... 3-20
Checking V-belt tension ... 3-20
Retightening the V-belt ... 3-21
Hydraulic system ... 3-22
Specific safety instructions ... 3-22
Checking the hydraulic oil level ... 3-22
Filling up hydraulic oil ... 3-23
Changing hydraulic oil ... 3-24
Monitoring the hydraulic oil reflux filter ... 3-24
Replacing the hydraulic oil reflux filter ... 3-24
Checking hydraulic pressure lines ... 3-25
Lubrication points ... 3-26
Tyre maintenance ... 3-27
Checks once a day ... 3-27
Checks once a week ... 3-27
Changing wheels ... 3-28
Disassembly ... 3-28
Fitting the wheels ... 3-28
Electric system ... 3-29
Specific safety instructions ... 3-29
Service and maintenance work at regular intervals ... 3-29
Instructions concerning specific components ... 3-30
Alternator ... 3-30
Battery ... 3-31
Battery master switch ... 3-31
General maintenance work ... 3-33
Cleaning ... 3-33
General instructions for all areas of the machine ... 3-33
Screw connections and attachments ... 3-34
Pivots and hinges ... 3-34

Engine

3TNV82a engine: overview ... 4-2
Fuel system ... 4-4
Checking and adjusting valve tip clearance ... 4-5
Tightening order for cylinder head bolts ... 4-6
Checking the injection nozzles ... 4-7
Pressure check ... 4-7
Checking the nozzle jet ... 4-7
Injection time ... 4-8
Adjusting engine revs ... 4-9
Compression ... 4-9
Checking the coolant thermostat ... 4-10
Checking the thermal switch ... 4-10
Oil pressure switch ... 4-11
Checking the coolant circuit ... 4-11
Engine trouble ... 4-12

Travelling drive

Variable displacement pump A4VG56DA ... 5-1
Variable displacement pump: diagram ... 5-3
Variable displacement pump: design ... 5-4
Travelling drive: overview ... 5-5
Connecting plate with valves ... 5-6

MidWestTech | Wacker Neuson 2001 Dumper Service Manual | Publication 1000154504 Order the manual at mid-west-tech.com >

Hydraulic motor 5-7
Hydraulic motor: overview 5-8
Travelling drive: overview 5-10
Towing and transporting the machine 5-11
Safety instructions 5-11
Towing 5-11
Open the high-pressure circuit 5-11
Releasing the hydraulic parking brake 5-12
Test instruction 5-13
Pilot pressure check 5-13
High pressure check 5-14

Axles
Axle type label 6-1
Front axle screw connections 6-2
Rear axle screw connections 6-3
Drain, fill and check plug – front axle 6-4
Drain, fill and check plug – rear axle 6-5
Tightening torques (Nm) – front axle 6-6
Tightening torques (Nm) – rear axle 6-7
Sealing work 6-8
Input flange – front axle: sealing work 6-8
Input flange – rear axle: sealing work 6-9
Brake cylinder – front axle 6-10
Planetary carrier – planetary drive: sealing work 6-13
Planetary carrier – axle tube: sealing work 6-16
Sealing ring in axle tube: sealing work 6-18
Cylinder/differential lock (sealing) 6-21
Differential lock: overview 6-22

Brakes
Brake circuit 7-1
Brake diagram 7-2
Brake valve 7-3

Steering
Steering circuit 8-1
Steering unit: diagram 8-2
Function 8-2
Steering unit connections 8-3
Steering unit: overview 8-4
Priority valve: overview 8-4
Priority valve: legend 8-4
Steering unit 8-5
Steering unit: legend 8-6

Hydraulic system
Manual spool connections: overview 9-1
Valves 9-2
Pressure limiting valve 9-2
Rotary throttle 9-2
Flush valve 9-3
Test instructions 9-4
Check: work pump pressure 9-4
Diagram A4 9-5
Diagram: legend 9-6
Hydraulics diagram A3 9-7

Electric system

MidWestTech | Wacker Neuson 2001 Dumper Service Manual | Publication 1000154504 Order the manual at mid-west-tech.com >

2 Specifications

2.1 Chassis

Sturdy steel sheet chassis, rubber-mounted engine

2.2 Engine

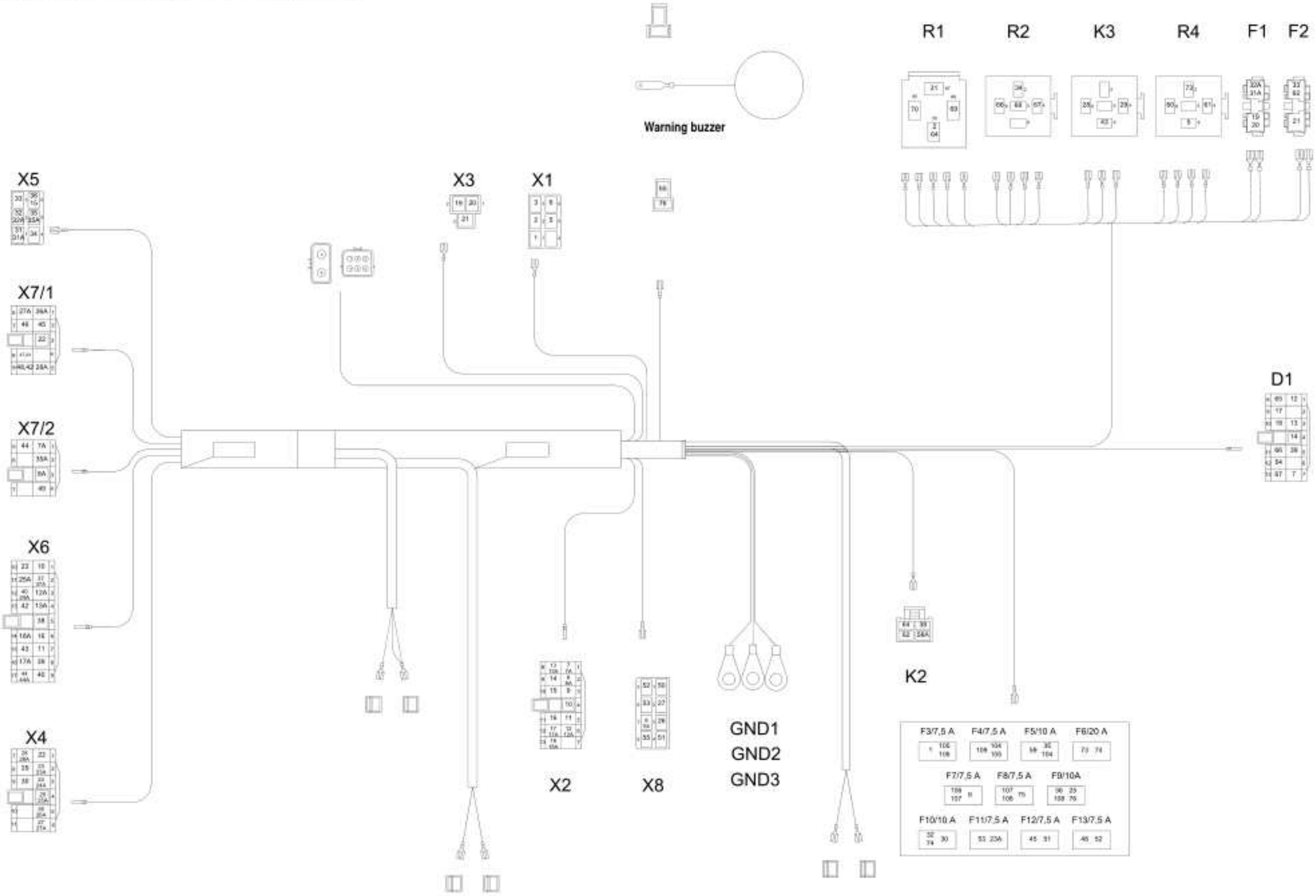
Engine	Model 2001
Product	Yanmar diesel engine
Model	3TNV82V-DNSV
Design	Water-cooled 4 stroke diesel engine
No. of cylinders	3
Fuel injection system	Direct injection
Aspiration	Naturally aspirated
Cooling system	Water-cooled
Lubrication system	Force-feed lubrication with trochoidal pump
Displacement	1331 cm³
Nominal bore and stroke	82 x 84 mm
Output	22.1 kW +/- 3% @ 3000 rpm
Max. torque	83 Nm @ 1800 rpm
Max. engine speed without load	3180 rpm +/- 25 rpm
Idling speed	~ 1050 rpm +/- 25 rpm
Valve tip clearance (intake = outlet)	0.15 – 0.25 mm (cold)
Injection pressure	120 – 130 bar
Compression	31 +/- 1 bar @ 250 rpm
Engine oil pressure	3 – 4 bar
Pressure switch for engine oil pump	0.5 +/- 0.1 bar
Opening temperature of thermostat	69.5 – 72.5 °C
Thermal switch	107 – 113 °C
Firing order	1 – 3 – 2 – 1
Direction of rotation	Counterclockwise (as seen from the flywheel)
Starting aid	Glow plug (preheating time 10 – 15 seconds)
Max. inclined position (engine still supplied with oil):	25°/45% in all directions
Exhaust values according to	97/68/EG EPA II

MidWestTech | Wacker Neuson 2001 Dumper Service Manual | Publication 1000154504
Order the manual at mid-west-tech.com >

Problem		Possible causes
Insufficient or no engine oil pressure		Oil level too low
		Machine inclination too high (max. 20°)
		Wrong SAE grade of engine lubrication oil
Engine oil consumption too high		Oil level too high
		Machine inclination too high (max. 20°)
Engine smoke	Blue	Oil level too high
		Machine inclination too high (max. 20°)
		Engine oil combustion (defective cylinder-head gasket)
	White	Engine starting temperature too low
		Fuel grade does not comply with specifications
		Wrong valve tip clearance
		Defective fuel injector
		Coolant combustion (defective cylinder-head gasket)
	Black	Fouled air filter
		Defective air filter maintenance switch or gauge
		Wrong valve tip clearance
		Defective fuel injector

MidWestTech | Wacker Neuson 2001 Dumper Service Manual | Publication 1000154504
Order the manual at mid-west-tech.com >

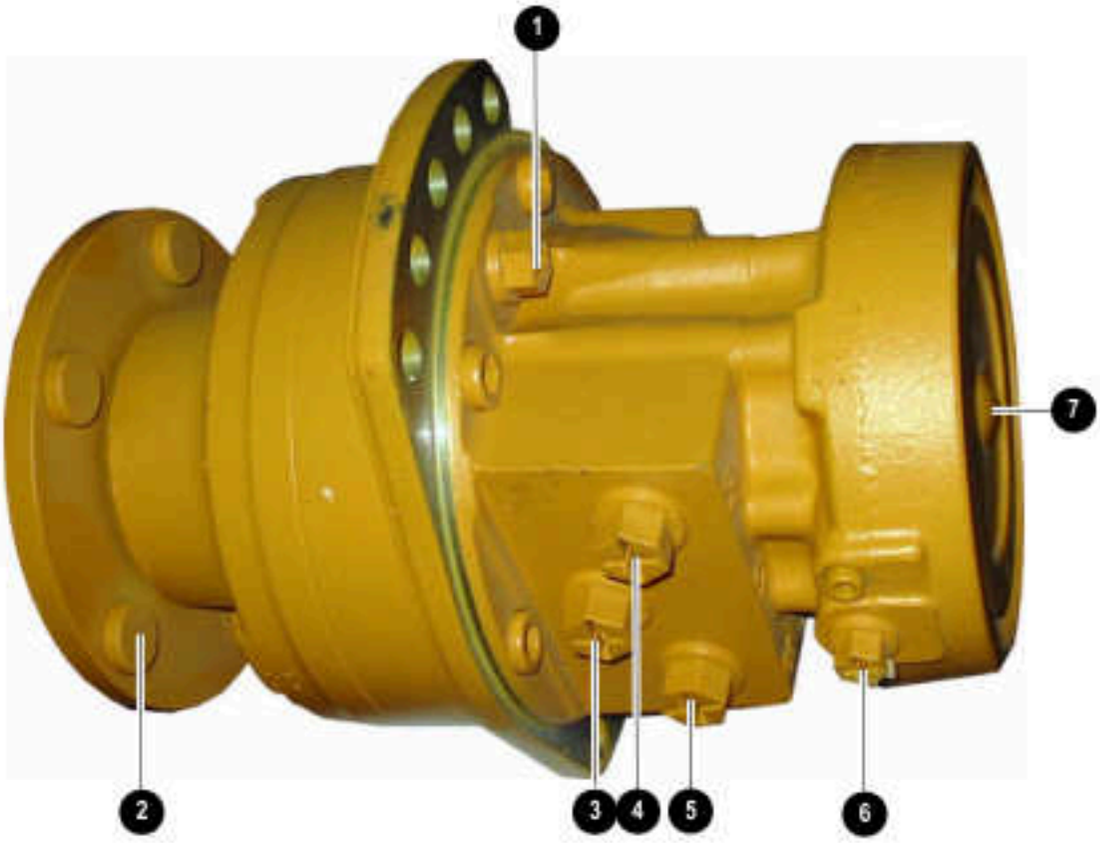
10.13 Wiring harness 1000068366: main wiring harness



MidWestTech | Wacker Neuson 2001 Dumper Service Manual | Publication 1000154504

Order the manual at mid-west-tech.com >

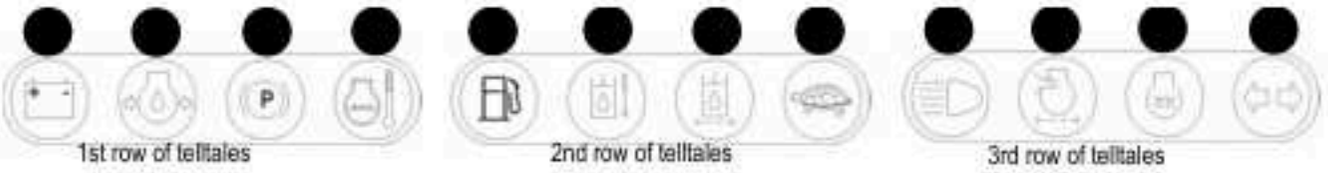
5.2 Hydraulic motor

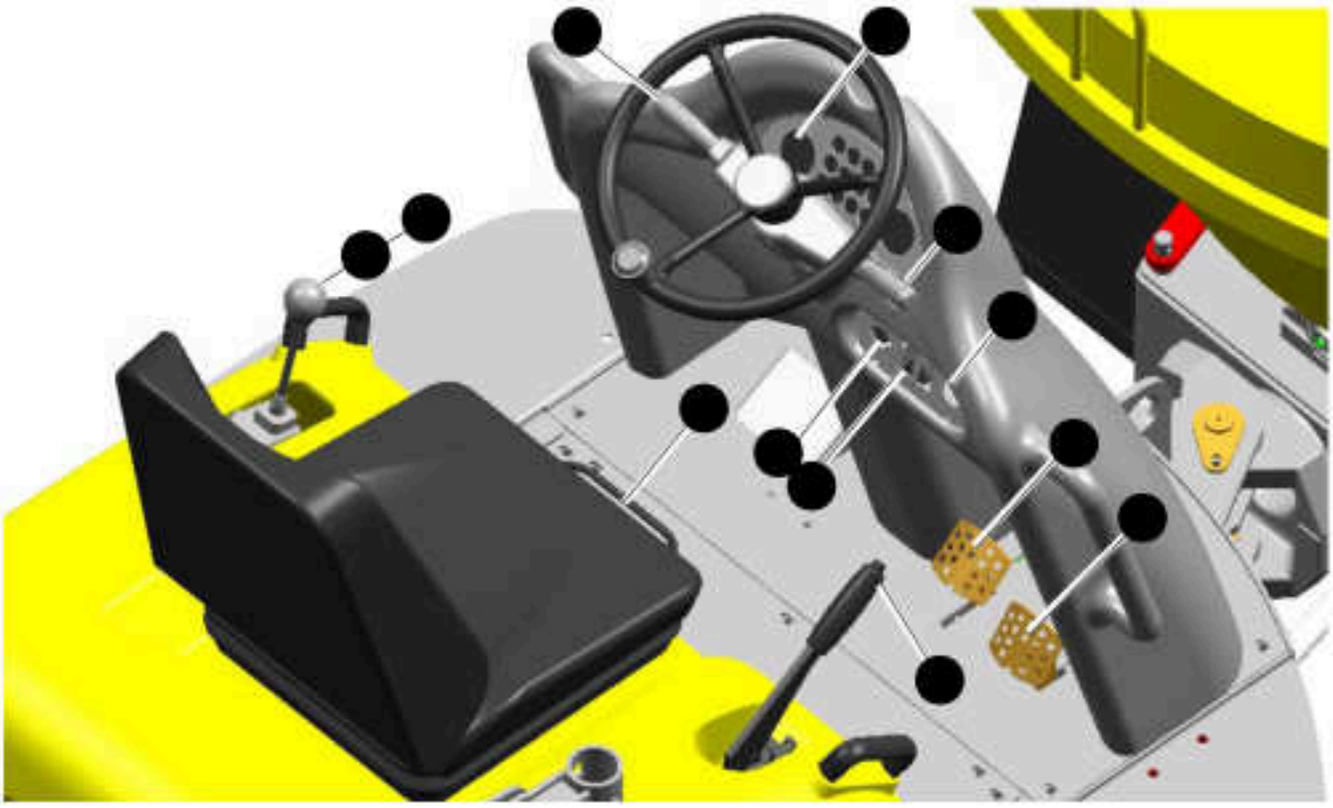


Pos.	Description
1	Leak oil port
2	Wheel screws
3	Port A2 (front hydraulic motor (forwards)/rear hydraulic motor (reverse))
4	A1 front/rear hydraulic motor serial line
5	Port R (front hydraulic motor (reverse)/rear hydraulic motor (forwards))
6	X handbrake connection
7	Handbrake release M12

MidWestTech | Wacker Neuson 2001 Dumper Service Manual | Publication 1000154504
Order the manual at mid-west-tech.com >

10.6 Instrument panel: overview



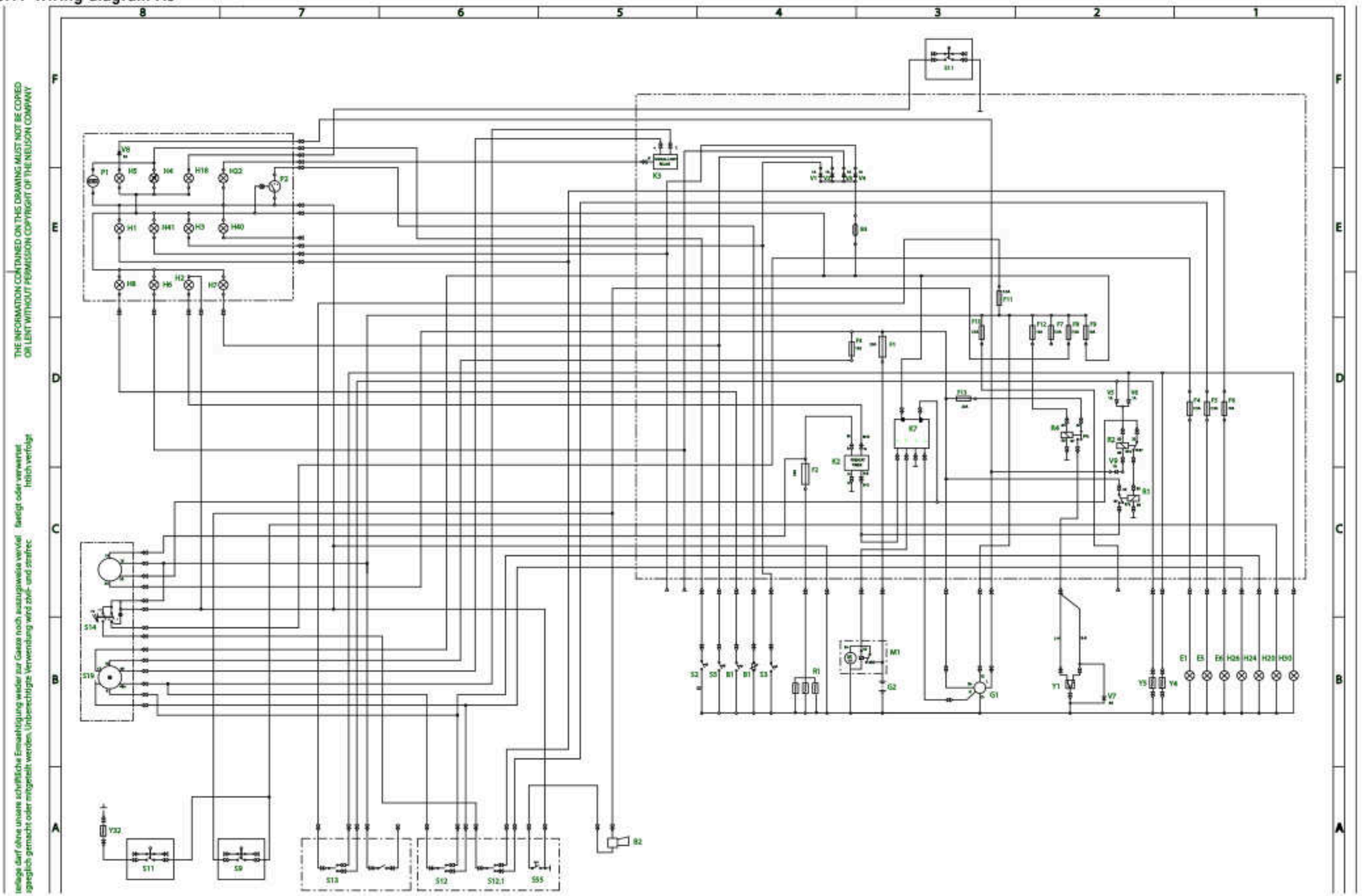


Operating equipment: legend

Pos.	Description	Pos.	Description
1	Accelerator pedal	13	Not assigned
2	Handbrake	14	High beam telltale
3	Ignition lock	15	Not assigned
4	Forwards-reverse control	16	Preheating telltale
5	Horn	17	Turn indicator telltale
6	Alternator charge function telltale	18	Hour meter
7	Engine oil pressure telltale	19	Fuel level indicator
8	Handbrake telltale	20	Lever for tilting/lowering the skipdy
9	Engine temperature telltale	21	Lever: swivel skip
10	Spare fuel telltale	22	Hydrostatic brake pedal
11	Not assigned	23	Light switch
12	Hydraulic oil filter telltale	24	Seat adjustment lever

MidWestTech | Wacker Neuson 2001 Dumper Service Manual | Publication 1000154504 Order the manual at mid-west-tech.com >

10.11 Wiring diagram A3



MidWestTech | Wacker Neuson 2001 Dumper Service Manual | Publication 1000154504

Order the manual at mid-west-tech.com >