CLAAS

SCORPION

7045	(from serial no. 403 03 0416)
7040	(from serial no. 402 03 0503)
7030	(from serial no. 401 03 0484)

Operator's Manual

SERVICE & PARTS

Contents

1 Introduction

1.1 Operator's Manual

Important notice on this Operator's Manual

This Operator's Manual applies to the following telehandlers:

➥ Models: 401-03, 402-03, 403-03

It is primarily designated for the operator and provides instructions on the use, the adjustment, the operation and the maintenance of the machine.

Carefully read and understand the Operator's Manual before starting up, servicing or repairing the machine.

Pay particular attention to the “Safety Instructions” given in chapter 2.

The Operator's Manual must always be at hand at the place of use of the machine, and must therefore be kept in the storage compartment or net behind the seat.

Immediately replace an incomplete or illegible Operator's Manual with a new one.

In addition to the Operator's Manual, observe and instruct the operator in all other generally applicable legal and other mandatory regulations relevant to accident prevention and environmental protection.

CLAAS keep abreast of the latest technical developments and constantly improve their products. For this reason, we may from time to time need to make changes to diagrams and descriptions in this documentation which do not reflect products which have already been delivered and which will not be implemented on these machines.

Technical data, dimensions and weights are given as an indication only. Responsibility for errors or omissions not accepted.

Please contact your dealer if you require more information on the machine or the Operator's Manual.

Notice on machine safety

Your own safety, as well as the safety of others, depends to a great extent on how the machine is moved and operated.

Careful and prudent working is the best way to avoid accidents! – *see chapter 2 “Selection and qualification of staff, basic responsibilities”* on page 2-5.

Notice on maintenance, repairs and spare parts

Operational safety and readiness of the machine do not only depend on your reliable control, but also on maintenance and servicing of the machine. This is why regular maintenance and service work is absolutely necessary.

Notice!

Repair work, maintenance or modifications may be carried out only by specifically trained technical staff or by a workshop!

Insist on using original spare parts when carrying out maintenance and repair work.

The machine's permits, certifications, registrations, etc., may be withdrawn if machine parts/components with a prescribed condition or quality, or machine parts/components that can put persons at risk during operation, are subsequently modified or exchanged.

Explanation of safety symbols

This symbol identifies safety warnings. It is used to warn against potential personal risk or danger.
Therefore, pay particular attention to the safety information following this symbol.

This symbol identifies danger for the machine. It is used to avoid potential danger on the machine.

Explanation of abbreviations and symbols

The indication **left** or **right** in the descriptions always refers to the driving direction  of the machine.

Symbols	Explanation
•	Identification of general enumerations or lists of an activity
☞	Identification of activities to carry out
➥	Identification of results of an enumeration or lists of an activity
Abbreviations	**Explanation**
max.	maximum
e.g.	for example
Fig.	Figures
S/h	Service hour
Order no.	Order or part number
(opt)	Option

1.2 Machine outside view

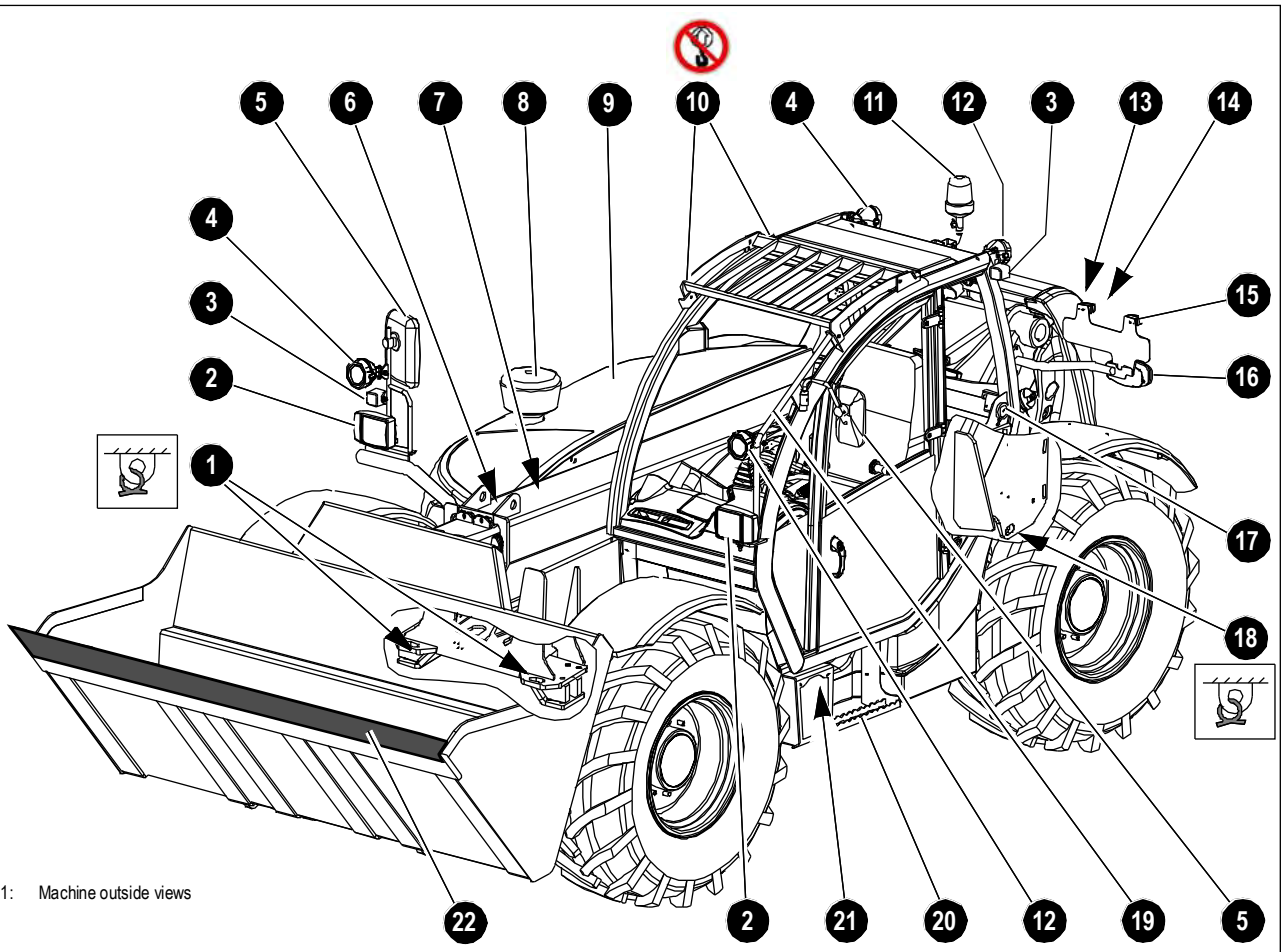

Fig. 1: Machine outside views

Pos.	Description
1	Front eye hook for towing/tying down the machine
2	Headlights with turn indicators
3	Rear clearance light
4	Working lights (front/rear right, option)
5	Left/right rearview mirrors
6	Boom working light (option)
7	Hydraulic connections (telescopic boom additional control circuit option)
8	Air filter (preliminary separator option)
9	Engine cover
10	Eye hook[1] only for installing/removing the cab
11	Rotating beacon (option)
12	Working light on left (standard)
13	Hydraulic connections (additional control circuit, option)

Pos.	Description
14	Trailer coupling (option)
15	Numberplate fixture (option)
16	Brake, rear and turn indicator lights
17	Door arrester
18	Rear eye hook for loading/tying down the machine
19	Handle for access
20	Cab access
21	Battery (battery master switch option)
22	Front-edge protection

1. Eye hooks are for removing the cab only, and may not be used for crane handling the machine

1.3 Brief description of telehandler

General information on the machine

According to German traffic regulations, the telehandler is a self-propelled work machine or tractor.

Get informed on and follow the legal regulations of your country.

Due to a wide range of possible attachments, the machine is a versatile and powerful helper in the construction industry, in agriculture and in recycling operations.

Other applications – *see Fields of application and using a telehandler with an attachment* on page 1-6.

Model designation – trade names

The machine is identified by two designations:

"Model designation" => stamped on the type label

"**Trade name"** => affixed outside on the machine

Model designation (version)	Trade name
401-03	7030
402-03	7040
403-03	7045

Main components of machine

- Sturdy steel sheet frame; rubber-mounted engine
- ROPS/FOPS tested cab
  ➥ROPS => Roll Over Protective Structure
  ➥FOPS => Falling Object Protective Structure
- Water-cooled turbocharged Deutz four-cylinder in-line engine
  ➥Exhaust emissions according to Directive 2004/26EC
- Drive Automotive, progressive hydrostatic axial-piston gearbox
  ➥Top speed 20 kph (30 or 40 kph option).
- Hydraulic power steering with emergency steering features (front wheel/four wheel/ diagonal steering)
- Front and rear planetary steering axles, rear axle with oscillation
- Service brake (multidisc brake)
- Parking brake and auxiliary brake (spring-loaded brake effect on multidisc brake)
- Telescopic boom

Hydrostatic drive

The diesel engine permanently drives a hydraulic pump (variable displacement pump), whose oil flow is sent to a hydraulic motor flanged on the gearbox. The hydraulic motor transmits its power to the front and rear axles (via the transfer gearbox and the cardan shaft) for permanent 4 wheel drive.

Work hydraulics and 4 wheel steering

The diesel engine drives a gear or axial piston pump for the work hydraulics and the steering system, and a gear pump both for the fan (water/hydraulic oil radiator) and the boost pressure of the variable displacement pump (drive).
When the machine is in operation, the diesel engine output can be transmitted to the work hydraulics and the steering system to a large extent. This is made possible by a so-called inching valve which responds as soon as the service brake is used, reducing or cutting off power input of the drive. Therefore, engine output is fully available for the telescopic boom by pressing the accelerator pedal and the brake pedal at the same time.

Cooling system

A combined water/hydraulic oil cooler (for the diesel engine and the hydraulic oil) is located in the engine compartment. The fan drive (water/hydraulic oil cooler) is hydraulically driven by a gear pump located at the diesel engine's power take-off (optional charge-air cooler).
The indicator lights on the instrument panel of the machine ensure constant monitoring of the engine and hydraulic oil temperature (indicator lights), as well as of the coolant temperature and level.

1.4 Telehandler warranty

Warranty claims

Warranty claims can be made only if the conditions of warranty have been observed.

They are included in the General Conditions of Sales and Delivery for new machines and spare parts sold by the dealers. Furthermore, the instructions in this Operator's Manual must be observed.

1.5 Fields of application and using a telehandler with an attachment

The attachments will decide in the first place how the telehandler is used.

Caution!

In order to avoid damage to the machine, only the attachments listed in the table have been certified for installation on the machine.

☞ *See table Authorised attachments*

Mounting attachments other than Kramer is only allowed if they correspond to the description in chapter "Operation" *Fitting attachments other than Kramer onto the quickhitch (option)* on page 3-112.

Note that not all attachments listed in the table are allowed to be used on public roads.

The attachments complying with German road traffic regulations and the applicable provisions are listed in the **General Certification for Vehicles** (Germany) or the **data confirmation** (Germany)!

Attachments that are **not** listed in the table require an **EBE (separate certification for vehicles)** made out by the competent authority!

Get informed on and follow the legal regulations of your country.

Authorised attachments

Attachment[1]	Attachment type no.	Dimensions	Struck/ heaped	Use	Telehandler model
Standard bucket – normal material[2]	1000150361 1000150491	2400 mm (with teeth) 2400 mm (without teeth)	1.0/1.2 m^3	Loosening, picking up, transporting and loading loose or solid material (material density ≤ p = 1.8 t/m^3)	401-03, 402-03, 403-03
	1000151088 1000151089	2400 mm (with teeth) 2400 mm (without teeth)	1.3/1.6 m^3		402-03, 403-03
Standard bucket – light-weight material [2, 3]	1000158730[4]	2500 mm	1.5/1.8 m^3	Picking up, transporting and loading lightweight material (material density ≤ p = 1.3 t/m^3)	401-03, 402-03, 403-03
Standard bucket – superlight-weight material[2, 3]	1000176645[4]		2.0/2.5 m^3	Picking up, transporting and loading very lightweight material (material density ≤ p = 0.9 t/m^3)	401-03, 402-03, 403-03
	1000171728[4]	2500 mm	2.5/3.0 m^3	Picking up, transporting and loading grain (material density ≤ p = 0.7 t/m^3)	402-03, 403-03
Stone bucket[2]	1000249312	2300 mm	–	Picking up and transporting large stones, e.g. flags	401-03, 402-03, 403-03
Multipurpose bucket with exchangeable blade[2, 7]	1000185558	2400 with teeth	1.1/1.2 m^3	Grading, removing and scraping vegetation, for example; picking up and evenly spreading material; grabbing bulky material; loading trucks (material density ≤ p = 1.8 t/m^3)	401-03, 402-03, 403-03

Attachment[1]	Attachment type no.	Dimensions	Struck/ heaped	Use	Telehandler model
Silage bucket [2, 5]	1000174575	2400 mm	1.45 m^3	Picking up and transporting silage or recycling material (material density ≤ p = 1.1 t/m³)	401-03, 402-03, 403-03
Silage bucket with hydraulic clamp[2, 5, 7]	1000249265	2300 mm	1.3 m^3		401-03, 402-03, 403-03
	1000249266	2300 mm	1.4 m^3		
	1000166717	2400 mm	2.4 m^3		
	1000166718		1.9 m^3		
	1000249267	2500 mm	1.5 m^3		
Manure/silage forks[2, 6, 7]	1000166758	Length 1000 mm Width 2300 mm	2.3 m³	Picking up and transporting manure and silage	401-03, 402-03, 403-03
	1000166765	Length 1000 mm Width 2500 mm	2.5 m³		
Manure forks with hydraulic grab[2,6,7]	1000249314 1000249480	2300 mm 2500 mm	–		401-03, 402-03, 403-03
Silage cutter[2, 6, 7]	1000249317	800 mm	–		401-03, 402-03, 403-03
Beet basket[2, 6, 7]	1000166760	2400 mm	2.0 m³	Picking up and transporting beets	401-03, 402-03, 403-03
Heavy duty bucket with hydraulic clamp[2, 5, 7]	1000174577	2400 mm	1.3 m^3	Picking up, transporting and loading lightweight material (material density ≤ p = 1.3 t/m³)	401-03, 402-03, 403-03
	1000174578		1.6 m^3	Picking up, transporting and loading lightweight material (material density ≤ p = 0.9 t/m³)	402-03, 403-03
Pallet forks[2, 5, 6, 7]	1000171857	Length 1200 mm	Load diagram	Picking up and transporting pallets	401-03, 402-03, 403-03
	1000165368	Length 2000 mm			
	1000178248	Length 1500 mm			401-03, 402-03, 403-03
Floating pallet forks (floating fork arms)[2, 5, 6, 7]	1000171735	Length 1200 mm			401-03, 402-03, 403-03
Floating pallet forks (floating fork arms with hydraulic side shift)[2, 5, 6, 7]	1000171736	Length 1200 mm	Load diagram	Picking up, transporting and side-shifting pallets	401-03, 402-03, 403-03
Pallet forks (fork arms with hydraulic side shift)[2, 5, 6, 7]	1000174576				
	1000174581	Length 1600 mm			402-03, 403-03

Attachment[1]	Attachment type no.	Dimensions	Struck/ heaped	Use	Telehandler model
Crane jib[2, 5, 6]	1000157237	Length 1300 mm	Load diagram	Picking up and transporting loads with lifting gear (cables, chains, belts)	401-03, 402-03, 403-03
Bale spike (3 tines)[2, 6]	1000166754	Length 1100 mm Width 1250 mm	Load diagram	Picking up and transporting hay and straw bales	401-03, 402-03, 403-03
Bale grapple[2, 6]	1000166756	Clamping width 800 – 1800 mm	–	Picking up and transporting hay and straw bales (load-bearing capacity 1500 kg)	401-03, 402-03, 403-03
Bale grapple V40[2, 6, 7]	1000249268	–	–		401-03, 402-03, 403-03
Bale grapple W500[2, 6, 7, 8]	1000249269	–	–		401-03, 402-03, 403-03
Adapter frame EURO quickhitch[2, 3]	1000157243	–	–	Picking up attachments	401-03, 402-03, 403-03
Material pusher[6]	1000249311	Width 2500 mm		For moving loose bulk material	401-03, 402-03, 403-03
Box tipper[2, 7]	1000249315	Length 1200 mm	3.5 t	–	401-03, 402-03, 403-03
Rotary broom[6, 7,]	1000174580	–		Street cleaning	401-03, 402-03, 403-03
Snow plough[6, 7]	1000174579	–		Winter service	401-03, 402-03, 403-03

1. Get informed on the legal regulations of your country for information on mounting attachments
2. Bear in mind the safe load indicator when working with this attachment
3. When using this bucket on public roads, mount the right and left-hand headlights in a higher position and readjust them – see “Adjusting the headlights” on page 1-10
4. With screwed-on bucket blade
5. Only with load diagram for telehandler
6. Not authorised for use on public roads
7. See the Operator's Manual of the attachment for putting the attachment into operation and using it
8. Attachment can be operated only with a switchable 3rd control circuit.

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