

# **O P E R A T I N G M A N U A L**

**- Original -**

**Product**                      **Seacom Rolltrailer**  
**RT 80' 150t**

**Serial no.**                    **A 5502 / 1-7**

**Drawing no.**                **06.01.8082**

**Customer**                    **Atlantic Container Line**  
**ACL AB**  
**S-403 36 Gothenburg**

**Supplier**                    **Transport Systems Seacom AG**  
**Berbiceweg 5**  
**CH – 8212 Neuhausen**

**Tel. +41 (0) 52 632 04 00**  
**Fax +41 (0) 52 632 04 09**

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# 1 CE DECLARATION OF CONFORMITY

<b>Transport Systems Seacom AG</b> <b>Neuhausen, Schweiz</b>	
<b>EG-Konformitäts-Erklärung</b> <b>EC Declaration of Conformity</b>  im Sinne der EG-Richtlinie Maschinen 2006/42/EG, Anhang II A <i>in the sense of EC Machinery Directive 2006/42/EC, annex II A</i>	
Produktbezeichnung: <i>Product:</i>	<b>Rolltrailer 80' 150t</b> <b>24,3x3,0x1,05/1,15m</b>
STS-Nummer: <i>STS-Number:</i>	<b>A 5502 / 1-7</b> <b>06.01.8082</b>
Hersteller: <i>Manufacturer:</i>	<b>Transport Systems Seacom AG</b> Berbiceweg 5 CH – 8212 Neuhausen
Der Hersteller deklariert, dass das bezeichnete Produkt in Übereinstimmung mit folgender Richtlinie entwickelt, konstruiert und gefertigt wurde:  <i>The manufacturer declares that the above mentioned product is developed, designed and manufactured according to:</i>	EG-Maschinen Richtlinien (2006/42/EG)  EC Machinery Directive (2006/42/EC)
Folgende harmonisierte Normen sind angewandt:  <i>The following national standards, directives and specifications have been applied:</i>	EN ISO 12100-1/ -2 (Sicherheit von Maschinen - Grundbegriffe, allgemeine Gestaltungsleitsätze) / ( <i>Safety of machinery - Basic concepts, general principles</i> ) EN ISO 14121-1 (Sicherheit von Maschinen - Risikobeurteilung) / ( <i>Safety of machinery - Risk assessment</i> ) EN 287-1 (Prüfung von Schweißern - Schmelzschweißen - Teil 1: Stähle) / ( <i>Qualification test of welders - Fusion welding - Part 1: Steels</i> )
Neuhausen, 22. July 2011	Heinz Althammer <b>Trailer Systems Seacom AG</b>

## 2 PREFACE

Please read this documentation carefully in order to avoid accidents. This way you can make sure that all warranty conditions are complied with and the trailer will be working well at any time.

### HOW TO USE THE TRAILER CORRECTLY

- The trailer is produced for internal transport only.  
Please do not exceed the max. capacity stated on the type plate.  
Damages caused by overloading are not covered by warranty.
- Please observe the following operating instructions carefully.  
The trailer may only be operated, maintained and repaired by trained persons.
- Unauthorized modifications of the trailer will lead to expiry of warranty.
- All rules and regulations for accident preventions have to be adhered to.

### WARRANTY

- Any warranty claims can only be considered, if all service and maintenance works has been carried out on schedule. The operator has to keep records about all maintenance and repair works.

### 3 RESIDUAL RISK

**Danger**

of getting caught or crushed during the coupling by the trailer.  
Persons that are near the trailer during hitching and unhitching can get caught or run over.

- It needs to be ensured that no persons are in the danger area during the coupling operation.

**Warning**

Dangers from overloading.

An overload of the trailer can cause major damages to the trailer and endanger persons.

- The load limitations must be observed.

**Warning**

Dangers from collision.

Parts of the load that extend over the cargo bed can collide with the surroundings, cause damage and endanger persons.

- Before the transport, the driver must make sure that no collision is possible.

**Warning**

Danger of getting caught or crushed by the trailer.

Danger when driving on inclines: The trailer or the cargo can slide away or tip, especially when:

- the trailer is loaded to maximum
- the load has a high centre of gravity
- the road surface is uneven or slippery (dirt, ice)
- the speed is too high
- braking or accelerating suddenly

The road surface should be paved well enough. Speed should be reduced on inclines and driven with greatest caution. The cargo's centre of gravity should lie in the middle of the loading area if possible. Adapt the speed to the conditions.



**Danger**

of getting caught by the trailer.

Persons situated in front or close next to the moving trailer are in danger of being caught and crushed by it.

- As long as the trailer is moving, the driver must ensure that no persons are situated in the danger area of the trailer.



**Warning**

Danger during maintenance.

Danger of injury from improper operation and maintenance.

All specifications concerning operation, inspection and maintenance must be observed. In case of doubt, the supplier needs to be consulted.



**Danger**

during maintenance on a jacked up trailer.

The trailer needs to be sufficiently supported before maintenance and secured against rolling away.

## 4 SPECIFICATION

Load capacity		150 t
Dead weight	approx.	30,6 t
Maximum speed	fully laden empty	6 km/h 16 km/h
Platform length	approx.	24.300 mm
Platform width	approx.	3.000 mm
Platform height front/rear	approx.	1.050/1.150 mm
Total length	incl. gooseneck approx.	27.400 mm
Coupling height		1.350 mm
Rear overhang		8.400 mm
Axle load		4x 35,8 t
Fifth wheel load		37,5 t
Fixed gooseneck	with king pin standard	2"
Axle		2 pcs
Tyres	solid rubber	28x10x22
	number of tyres	16 pcs
Brakes	air brake system	
Loading platform	steel plate	10 mm
Accessories	lashing rail in the platform D-Rings in front and rear	
Finish	dry thickness Colour (oxide red)	approx. 100/120 my RAL 3009

Measurements and weight may vary slightly.



## 5 OPERATING INSTRUCTIONS

### Intended use

- The rolltrailer's intended use is for internal transport.
- The driver of the tractor has to inspect the rolltrailer for detectable faults before the start of operation.

### Coupling

- Reverse the truck towards the front of the rolltrailer, take care that the middle of the fifth wheel is directing towards the king pin of the fixed gooseneck.
- Then lift the fifth wheel coupling so that it is parallel to and under the gliding plate of the fixed gooseneck.
- Reverse the truck carefully till resistance is felt and fifth wheel has locked with king pin.
- Make sure that the coupling is firmly engaged with the rolltrailer.
- Connect brake lines.
- Lift the rolltrailer until the front of it is approximately 100 – 150 mm over the ground.

### Driving

- The rolltrailer shall only be towed by suitable towing vehicles with a fifth wheel lifting capacity of at least 37,5 t and a lifting height of at least 750 mm.
- The transport of persons is not permitted.
- The road surface should be in reasonable condition, and without obstacles.
- In any case, the prescribed speeds and safety regulations must be observed. The maximum permitted speed, straight ahead with full load of 150 t is 6 km/h.
- In curves the speed should be reduced appropriately.
- When reversing, seek a guide, if visibility is insufficient.

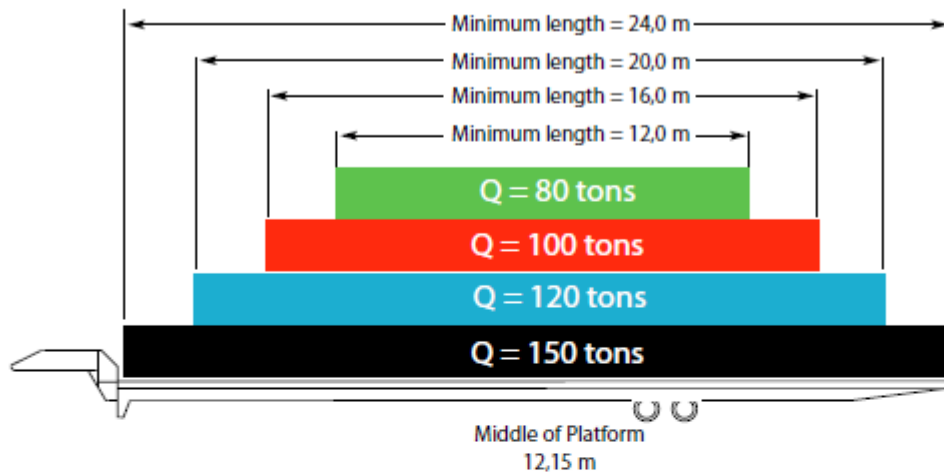
## Loading

- Make sure that the rolltrailer is parked on horizontal ground.
- The weight of the cargo put on the rolltrailer shall not exceed the maximum capacity.

## Distributed load

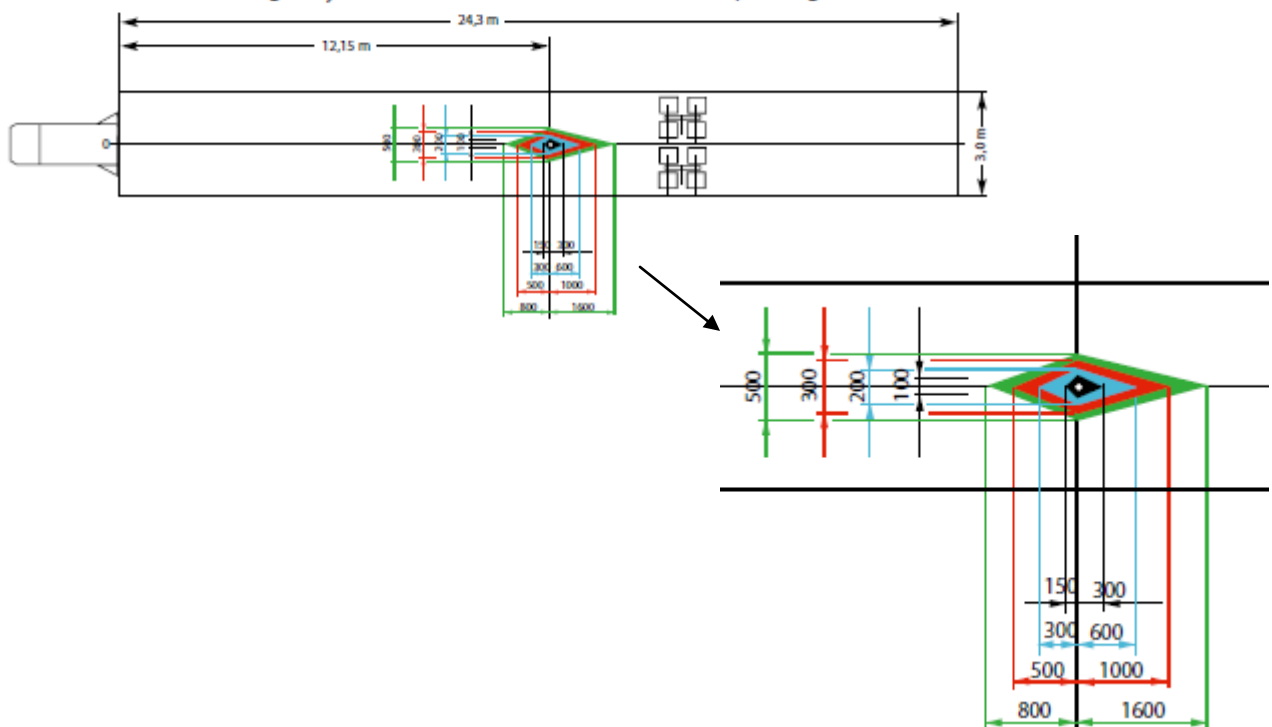
- To avoid overloading always ensure that the centre of gravity of the load is as close to the centre of the load area of the rolltrailer as possible (see the following loading scheme).

### Distributed loads



### Load center of gravity

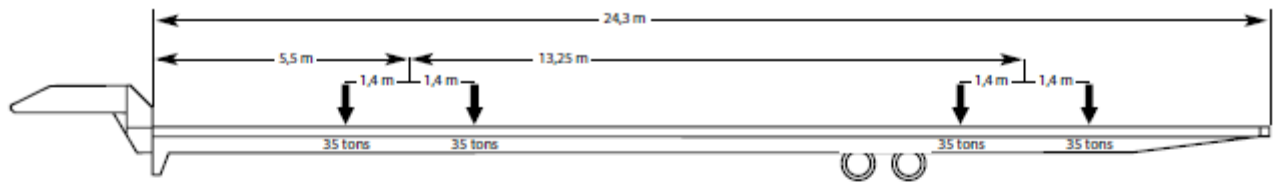
Load center of gravity must be within the colored areas corresponding to the load



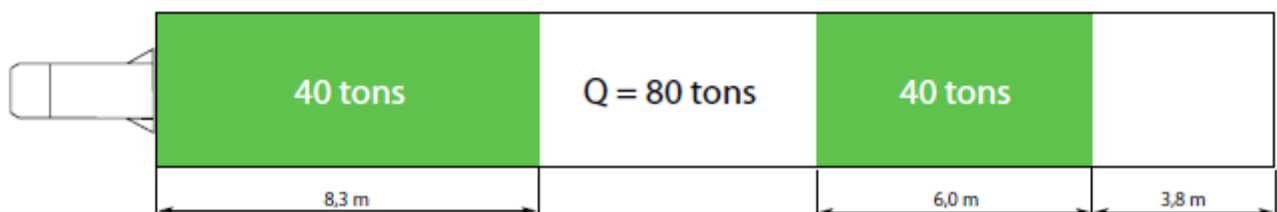
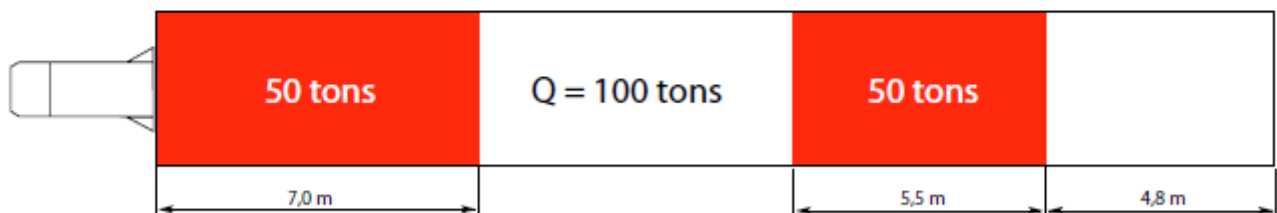
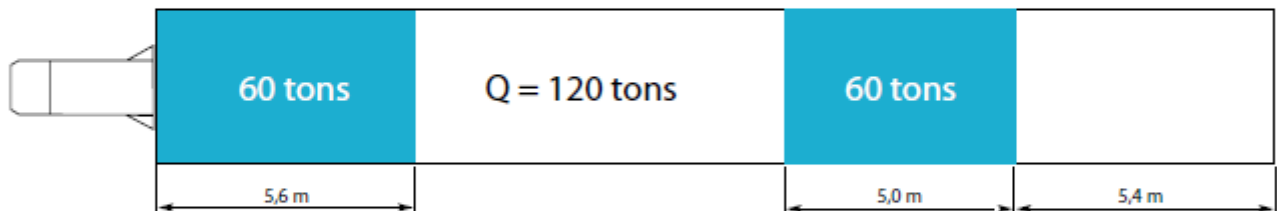
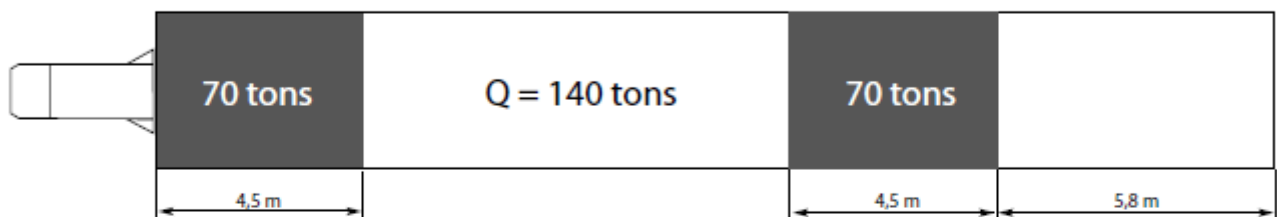
### Pointed load

- For the distribution of the load see the following scheme.

### Point loads railcar 140 tons



### Other point loads can be applied on marked areas



## 6 SERVICE MANUAL

### General information

The trailer is a simple and solid construction. The following inspections and maintenance tasks should be done at regular intervals in order to ensure a trouble free and safe operation. Faulty parts need to be replaced in time. They need to meet the specified requirements of the supplier and the pertinent safety regulations.

### Wheel set

Inspect the wheel sets regularly (in about 6-month intervals) for external damages.

### Tyres

Inspect the tyres for mechanical damages (about once a month).

### Wheels

Check the wheels regularly:

1. Does the wheel turn without noise and without axial movement?
2. If there is a noticeable noise, then dismount the wheel and check the ball bearings; if necessary replace them.

### Frame

The frame and the welding points should be checked regularly. The frame construction consists of structural steel and can be repaired by qualified repair technicians in case of damages. In case of questions, call your supplier.

### Lubrication

Greasing point	Number	Greasing interval
Rocker arm bearing	2	3 month
Swivel axle bearing	4	3 month

The lubrication intervals depend on the operational conditions of the trailer: If the conditions are rough, then more frequent lubrication is needed.

## Brake system

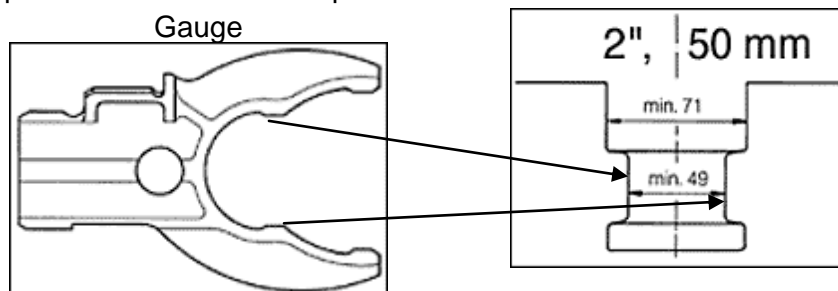
- Check correct function of brakes every week
- Adjust brake if necessary
- Replace damaged or worn out parts
- Check line filters behind couplings at front side of trailer every month and clean filter insert from dust if necessary

## King pin

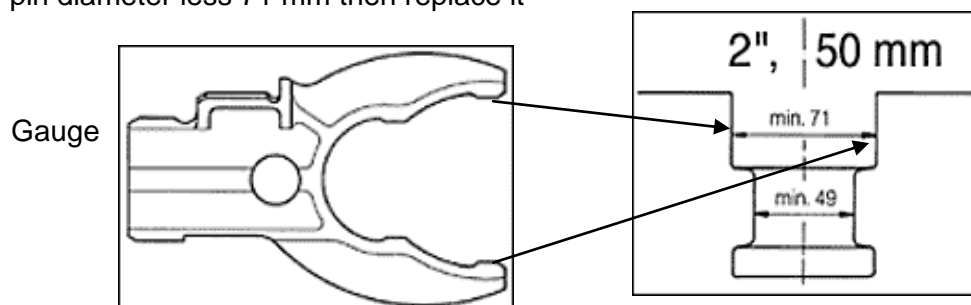
1. Inspect king pin regularly (approx. in 1 months intervals)
2. All screws tightened?
3. Check wear of pin with gauge



4. If middle part of pin is less 49 mm then replace it



5. If upper pin diameter less 71 mm then replace it



6. To replace pin unlock screws,
7. Do not use the old screws
8. Replace pin and screws
9. Use torque wrench (190 Nm)

### Tightening torque for screws and nuts

Screws and nuts need to be inspected regularly (monthly) or retightened.

Coefficient of friction:  $\mu_{\text{tot.}} = 0.12$  for screws and nuts without reworking, as well as phosphated nuts. Tighten by hand!

Tightening torques, if not specified otherwise, can be found in the following tables.

**Metric ISO standard thread DIN 13, sheet 13**

Size	8.8		10.9		12.9
M4	2,8		4,1		4,8
M5	5,5		8,1		9,5
M6	9,5		14		16,5
M7	15		23		28
M8	23		34		40
M10	46		68		79
M12	79		115		135
M14	125		185		215
M16	195		280		330
M18	280		390		460
M20	390		560		650
M22	530		750		880
M24	670		960		1100
M27	1000		1400		1650
M30	1350		1900		2250
M33	1850		2600		3000
M36	2350		3300		3900
M39	3000		4300		5100

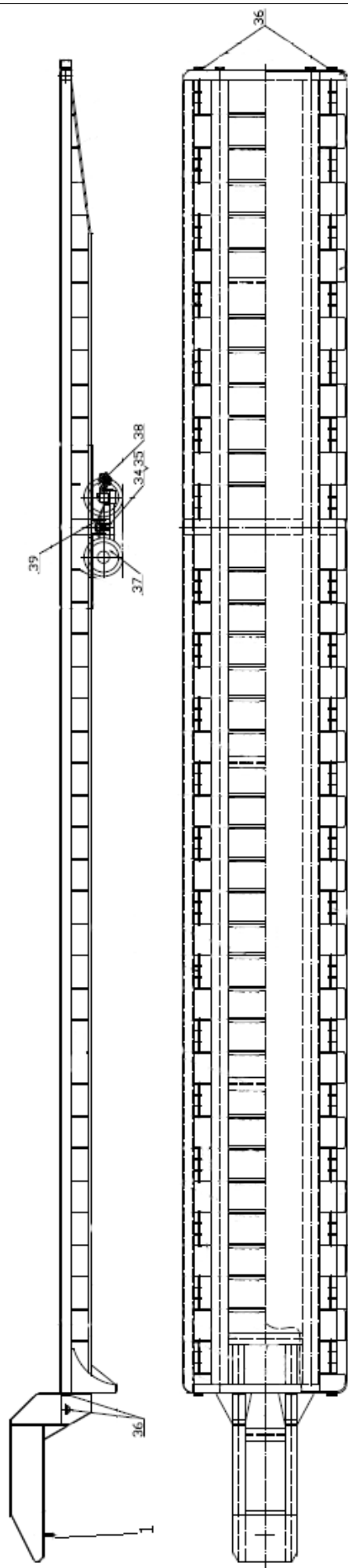
**Metric ISO fine thread DIN 13, sheet 13**

Size	8.8		10.9		12.9
M 8 x 1	24		36		43
M 9 x 1	36		53		62
M 10 x 1	52		76		89
M 10 x 1.25	49		72		84
M 12 x 1.25	87		125		150
M 12 x 1.5	83		120		145
M 14 x 1.5	135		200		235
M 16 x 1.5	205		300		360
M 18 x 1.5	310		440		520
M 18 x 2	290		420		490
M 20 x 1.5	430		620		720
M 22 x 1.5	580		820		960
M 24 x 1.5	760		1100		1250
M 24 x 2	730		1050		1200
M 27 x 1.5	1100		1600		1850
M 27 x 2	1050		1500		1800
M 30 x 1.5	1550		2200		2550
M 30 x 2	1500		2100		2500
M33 x 1.5	2050		2900		3400
M 33 x 2	2000		2800		3300
M 36 x 1.5	2700		3800		4450
M 36 x 3	2500		3500		4100
M 39 x 1.5	3450		4900		5700
M 39 x 3	3200		4600		5300

## 7 SPARE PARTS

### 7.1 GENERAL VIEW

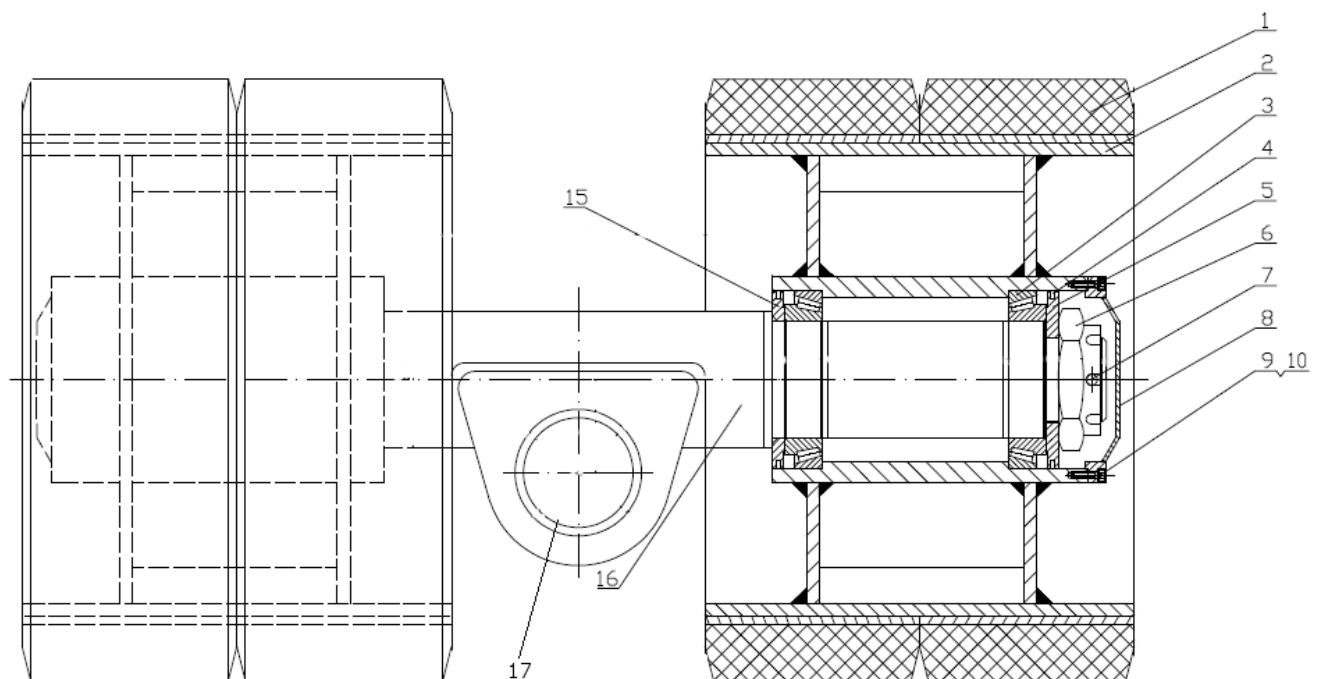
Dwg. No. 06.01.8082		
Item	Description	Part. No
1	King pin 2"	1723.1012
34	Screw M16x80 DIN933	06.01.8082.34
35	Washer B16 DIN127	06.01.8082.35
36	D-ring	06.01.8082.36
37	Wheel set 28x10x22	06.01.8082.37
38	Wheel set with brake 28x10x22	06.01.8082.38
39	Rocker beam	06.01.8082.39
40	Air brake system	06.01.8082.40





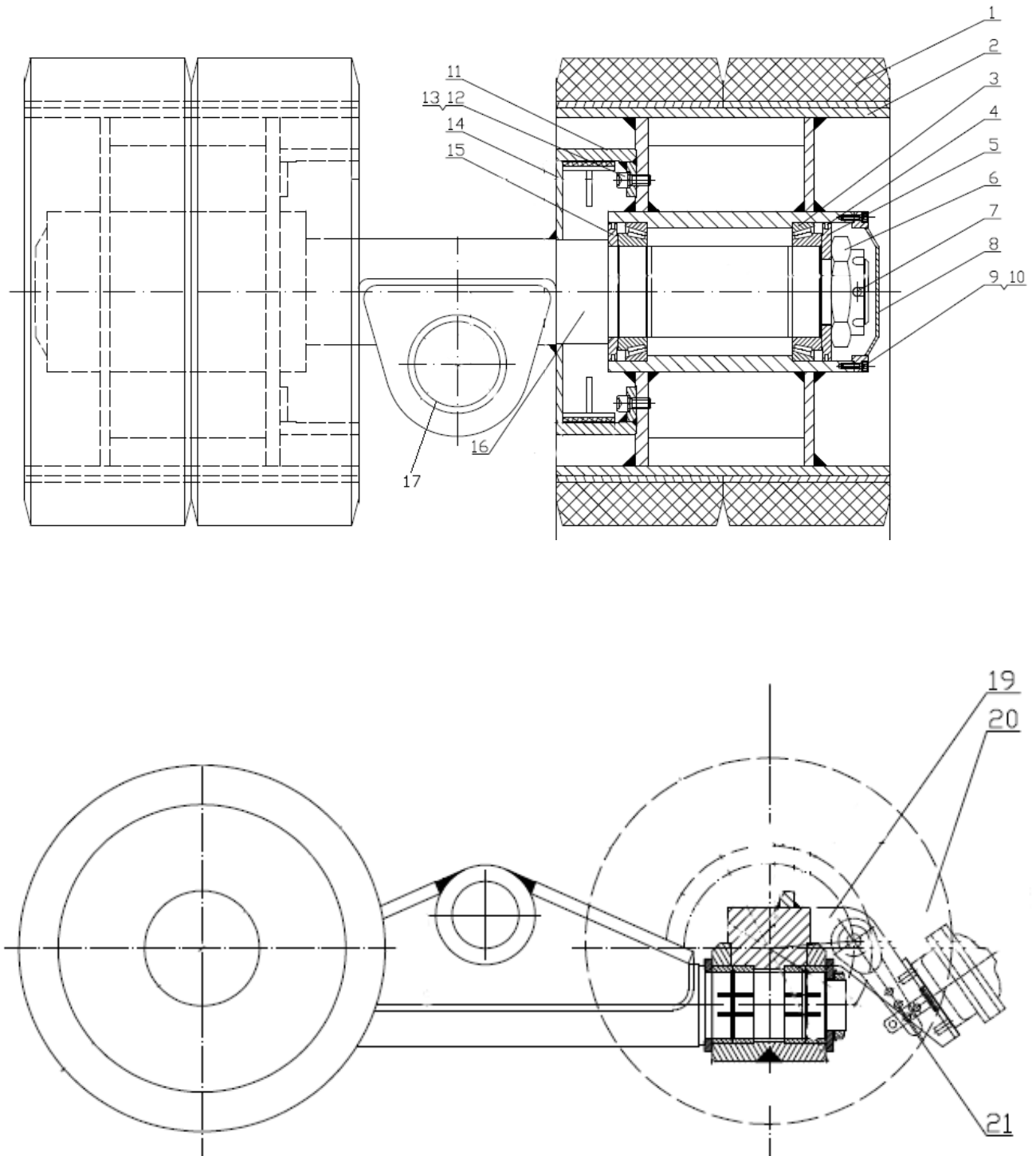
## 7.2 WHEEL SET 28X10X22

Dwg. No. 06.01.8082.37		
Item	Description	Part. No
1	Tyre 28x10x22	1605.1038
2	Wheel body	06.01.8082.37.2
3	Taper roller bearing 32028	1410.0010
4	Fey ring FK6 d=210 ASD	1450.0211
5	Sealing washer	06.01.8082.37.5
6	Hornet nut M100x2	1356.0100
7	Split pin 13x160 DIN94	06.01.8082.37.7
8	Hub cap	06.01.8082.37.8
9	Screw M8x30 DIN912	06.01.8082.37.9
10	Washer B8 DIN127	06.01.8082.37.10
15	Sealing washer	06.01.8082.37.15
16	Axle	06.01.8082.37.16
17	Bush 150x130x80	06.01.8082.37.17



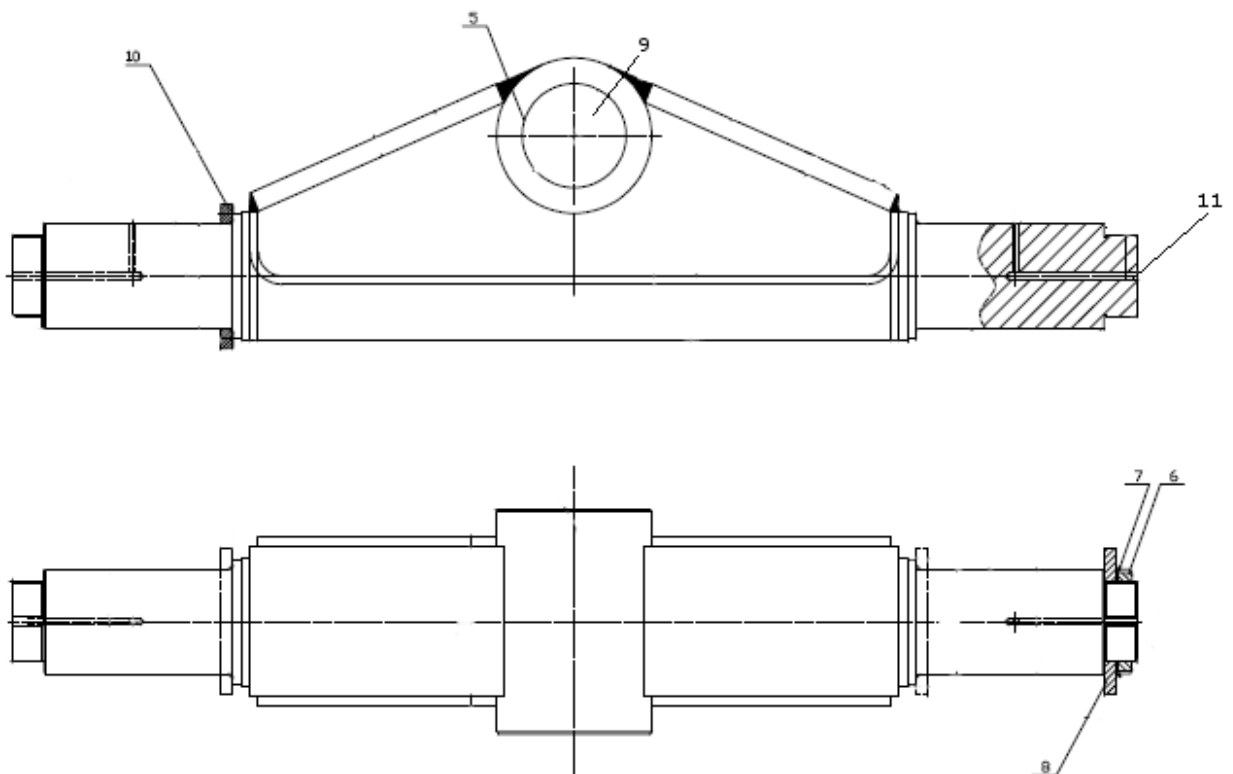
### 7.3 WHEEL SET WITH BRAKE 28X10X22

<b>Dwg. No. 06.01.8082.38</b>		
<b>Item</b>	<b>Description</b>	<b>Part. No</b>
1	Tyre 28x10x22	1605.1038
2	Wheel body	06.01.8082.38.2
3	Taper roller bearing 32028	1410.0010
4	Fey ring FK6 d=210 ASD	1450.0211
5	Sealing washer	06.01.8082.38.5
6	Hornet nut M100x2	1356.0100
7	Split pin 13x160 DIN94	06.01.8082.38.7
8	Hub cap	06.01.8082.38.8
9	Screw M8x30 DIN912	06.01.8082.38.9
10	Washer B8 DIN127	06.01.8082.38.10
11	Brake	06.01.8082.38.11
12	Screw M16x35 DIN6912	06.01.8082.38.12
13	Washer B16 DIN127	06.01.8082.38.13
14	Brake d=400x80	1616.1008
15	Sealing washer	06.01.8082.38.15
16	Axle	06.01.8082.38.16
17	Bush 150x130x80	06.01.8082.38.17
19	Fastener	06.01.8082.38.19
20	Brake	06.01.8082.38.20
21	Screw M16x55 DIN931	06.01.8082.38.21



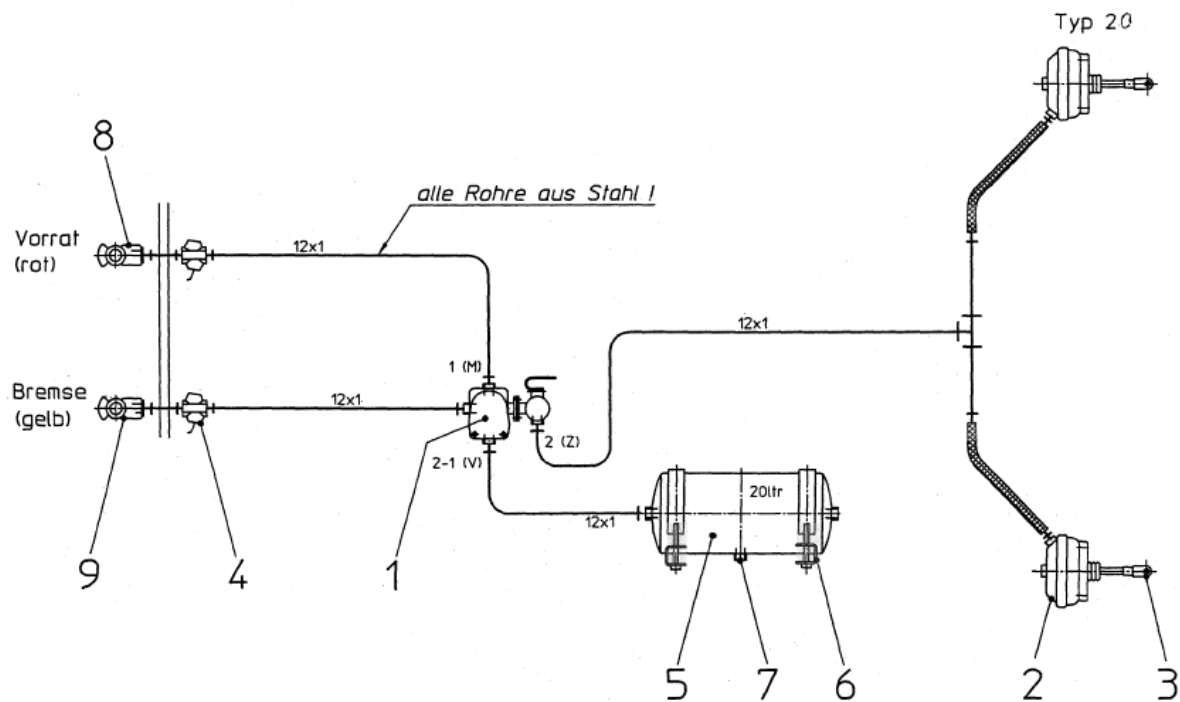
## 7.4 ROCKER BEAM

Dwg. No. 06.01.8082.39		
Item	Description	Part. No
5	Plain bearing bush 150x130x100	06.01.8082.39.5
6	Nut M100x2 KM20 DIN981	06.01.8082.39.6
7	Washer MB20 DIN5406	06.01.8082.39.7
8	Washer	06.01.8082.39.8
9	Pin for rocker beam	06.01.8082.39.9
10	Washer	06.01.8082.39.10
11	Lubrication nipple AM10x1 DIN71412	06.01.8082.39.11



## 7.5 AIR BRAKE SYSTEM

Dwg. No. 06.01.8082.40		
Item	Description	Part. No
1	Brake valve	1566.3800
2	Cylinder	06.01.8082.40.2
3	Completion kit (link joint)	06.01.8082.40.3
4	Pipe filter	06.01.8082.40.4
5	Air tank 20l	06.01.8082.40.5
6	Fastener strap	06.01.8082.40.6
7	Drain valve	1565.2000
8	Coupling head red	1567.0002
9	Coupling head yellow	1567.0003



Betriebsdruck 6 bar