
Operating instructions



Transport Vehicle

TROLLY 70-1

TROLLY 70-2; 70-2 DF

TROLLY 70-3; 70-3 DF



These operating instructions must be read before commissioning.

Failure to do so may be dangerous.

Machines may only be operated by personnel familiar with the appropriate safety regulations.



The equipment complies with

• EC Low Voltage Directive (73/23/EEC)

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Safety instructions

For Your Safety:



Ignoring the following safety precautions can be fatal.

Observe accident prevention regulations.

These operating instructions are valid only in conjunction with the relevant safety regulations, especially with accident prevention regulations VBG 9 and operating instructions of one of the welding machines from our product range!

Proper usage

This machine has been manufactured according to the latest developments in technology and current regulations and standards. It is to be operated only for the use for which it was designed (see chapter Commissioning/Area of application).

Improper usage

This machine may be a hazard to persons, animals and property, however, if it is

- not used as designed
- used by unskilled persons who have not been trained,
- modified or converted improperly



Our operating instructions will provide you with an introduction into the safe use of the machine.

Therefore please read them carefully and only start work when you are familiar with them.

Any person involved in operation, maintenance and repair of this machine must read and follow these operating instructions, especially the safety precautions. Where appropriate, this must be confirmed by signature.

Furthermore, the

- relevant accident prevention regulations,
- generally recognised safety regulations,
- local regulations, etc. must be observed.



Secure gas cylinder

- Place shielding gas cylinders in the holders provided for them and secure with safety chains or belts.
- Take care when handling cylinders; do not throw or heat, guard against them toppling over.
- For transport vehicles which can be moved by crane, the gas bottle must be removed before crane transport.



When moving and setting up the transport vehicle, it is only secure against falling to an angle of 10°. Special attention should be paid to the fact that, when the machine is moved, additional danger results from obstacles on the floor as these can cause additional tilting moments.



Comprehensive and additional welding safety precautions can be found in the operating instructions for our welding machines. A list of the standards and specifications currently in force can also be found in these instructions.

Repair and modifications may only be carried out by authorised, trained, specialist staff. The warranty becomes null and void in the event of unauthorised interference.

Safety instructions

Notes on the use of these operating instructions



Our operating instructions will provide you with an introduction into the safe use of the machine.

Therefore please read them carefully and only start work when you are familiar with them.

These operating instructions are arranged into chapters.

To help you find your way around more quickly, in the margins you will occasionally see symbols along with the sub-headings. These symbols refer to particularly important passages of text which are graded as follows depending on their importance:



(Note): Applies to technical peculiarities which must be observed by the user.



(Warning): Applies to working and operating procedures which must be carefully followed to avoid damaging or destroying the machine.



(Caution): Applies to working and operating procedures which must be carefully followed to avoid endangering people and includes the "Warning" symbol.

Instructions and lists detailing step-by-step actions in given situations can be recognised by bullet points, e.g.:

- Insert plug of welding current lead into socket (**chap. 5, G2**) and lock.

Meaning of the diagram descriptions:

e.g. **(C1)** means: Item C / figure 1 in the relevant chapter

e.g. **(chap. 3, C1)** means: in chapter 3 Item C / figure 1

1 Technical data

	TROLLY 70-1	TROLLY 70-2	TROLLY 70-2 DF	TROLLY 70-3	TROLLY 70-3 DF
Dimensions (LxWxH) in mm	1050x500x865	1050x500x1100	1050x500x1100	1050x500x1325	1050x500x1325
Weight without accessories	approx. 44kg	approx. 46kg	approx. 49kg	approx. 47kg	approx. 50kg
Constructed to standards	EN 60974 / IEC 60974 / VDE 0544 Chap. 14				

2 Description

2.1 General

- Mobile, crunable
- Steady and stable design due to the welded construction
- Building site, assembly and workshop use
- Brackets for all the necessary components



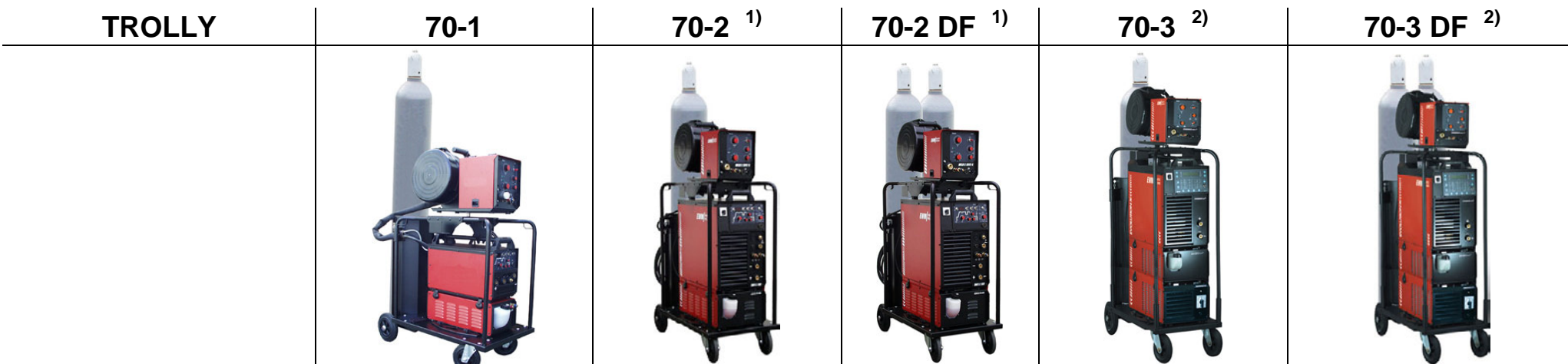
**Fig. 2/1 e.g. Trolley 70-2
complete with equipment**



**Fig. 2/2 e.g. Trolley 70-3 DF
complete with equipment**

2 Description

2.2 Overview TROLLY



Brackets for the following welding machines, components, incl. torches, tube packages, accessories and filler metals

Welding machine/s	TRITON 260	TRITON, SIRION: 400, 500; PHOENIX: 300, 400, 500	1 power source: E.g. TRITON 400, 500 SIRION: 400, 500 PHOENIX 300, 400, 500		
Module/s	COOL 30 U20	-	1 module, e.g. COOL 70 U40 /41	2 modules, e.g. COOL 70 U40 /41 und MULTIVOLT 70-500	
Wire feed unit	WELDON/ PHOENIX DRIVE 4/ DRIVE 4L		WELDON/ PHOENIX DRIVE 4/ DRIVE 4L		WELDON/ PHOENIX DRIVE 4/ DRIVE 4L
Gas cylinder/s	1	1	2	1	2
Option required					
Opt. PHOENIX 300 holding plate	092-001651-00000	092-001651-00000	092-001651-00000	092-001651-00000	092-001651-00000
Opt. TRITON 260 holding plate	092-001652-00000 ³⁾	-	-	-	-
Fully fitted; item no.	090-008103-00000	090-008089-00000	-	-	-
For fitting; item no.	090-008155-00000	090-008156-00000	090-008157-00000	090-008158-00000	090-008159-00000

1) Transport only permitted with one power source and one module; 2) Transport only permitted with one power source and two modules; 3) TRITON 260 without cooling moduel, no holding plate option required

2 Description

2.3 Equipment

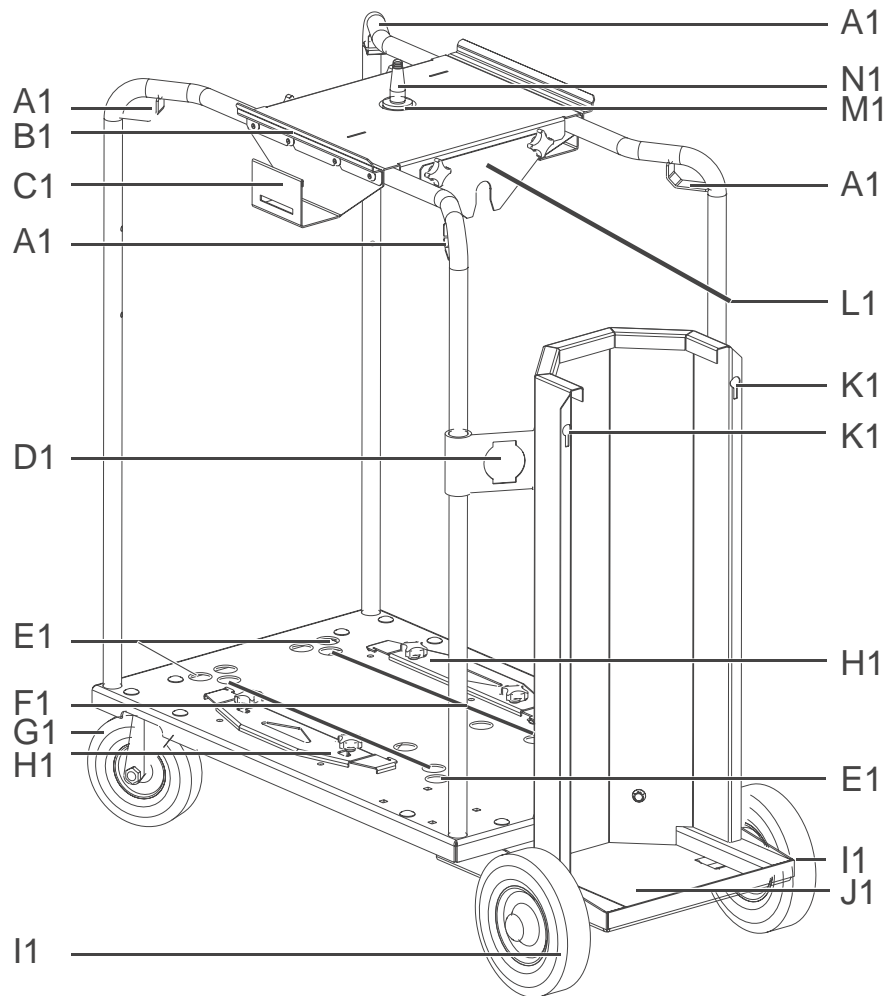


Fig. 2/3 e.g. Trolley 70-2

Item	Description
A1	Fixing points for crane transportation
B1	Brackets for wire feed units WELDON DRIVE 4 and PHOENIX DRIVE 4
C1	Hook for holding accessories, such as welding torches
D1	Intermediate tube package strain relief
E1	Exterior bores for housing the rubber feet, e.g. on the following units: COOL 71U40/41; MULTIVOLT 70-500; TRITON 400/500; SIRION 400/500; PHOENIX 300/400/500 (chap. 4.3)
F1	Interior bores for housing the rubber feet, e.g. on the following units: COOL 30U20; TRITON 260 (chap. 4.3)
G1	Guide castors
H1	Holding plate with brackets for fixing the units
I1	Fixed castors
J1	Carrier plate for gas cylinder
K1	Securing chain fixing point for gas cylinder
L1	Clamping plate for housing the welding machine handle
M1	Press arbor retainer
N1	Press arbor for housing the wire feed units WELDON DRIVE 4L or PHOENIX DRIVE 4L

3 Assembly / fitting

3.1 Individual parts

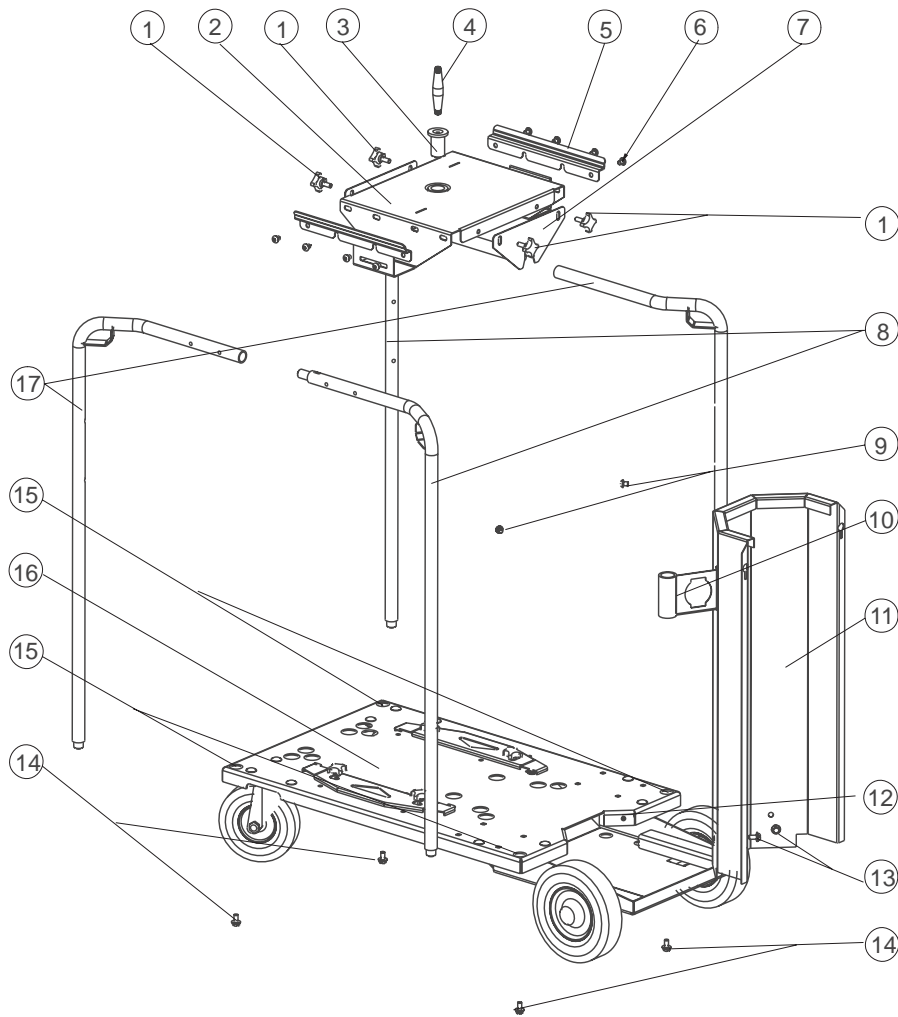


Fig. 3/1 Trolley 70-2, disassembled

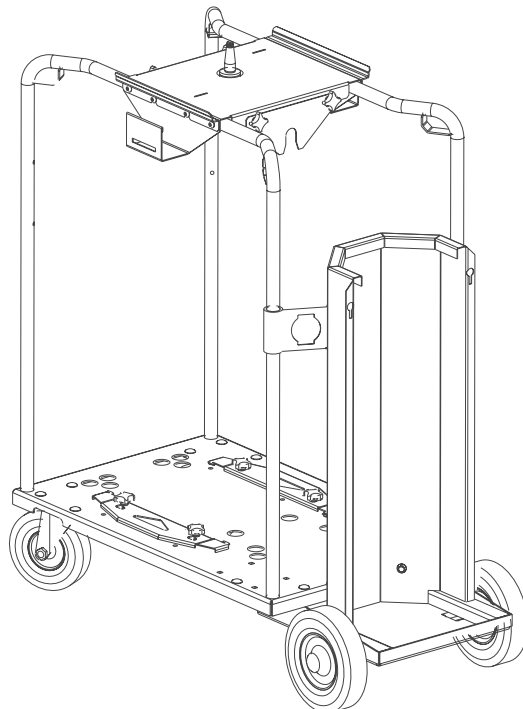


Fig.3/2 Trolley 70-2, fully fitted

3 Assembly / fitting



Please check that the parts are complete after unpacking the transport vehicle.

Item	Quantity	Description
1	4	Star handle
2	1	Wire feed carrier plate
3	1	Press arbor socket
4	1	Press arbor
5	2	DV302 holder plate
6, 9	10	M8X10 hexagonal socket screw, black galvanised
7	2	Standard clamping plate
8	2	Tube B high (TROLLY 70-1) Tube B medium (TROLLY 70-2 / 70-2 DF) Tube B high (TROLLY 70-3 / 70-3 DF)
11	1	Cylinder holder
13, 14	6	M8X15 self-locking hexagonal screw
16	1	Base assembly, fully fitted with wheels, holding plate, cylinder base
17	2	Tube A high (TROLLY 70-1) Tube A medium (TROLLY 70-2 / 70-2 DF) Tube A high (TROLLY 70-3 / 70-3 DF)
(not illustrated)	1	Rubber blank
(not illustrated)	1-2	Gas cylinder securing chain
(not illustrated)	2	Tube guide (TROLLY 70-2 DF / 70-3 DF only)
(not illustrated)	1	Cylinder guide (TROLLY 70-2 DF / 70-3 DF only)

3.2 Fitting TROLLY 70-1; 70-2; 70-3

- Loosely screw cylinder holder (11) to the base assembly (16) [(12) thread] using the M8X15 self-locking hexagonal screws (13).
- Insert one tube A (17) and B (8) through the tube guides (10) on the cylinder holder (11) into the holes (15) on the base assembly (16) and screw on loosely using the M8X15 self-locking hexagonal screws (14).
- Screw the wire feed carrier plate (2) using the M8X10 hexagonal screws (6) and the DV302 holder plates (5) onto the tubes already fitted. The position of the holder plates (5) (angle section up or down) depends on the wire feed case to be transported (chap. 4.4).
- Connect the second tube A (17) to the tube B (8) already fitted and the second tube B (8) to the tube A (17) already fitted and screw on loosely to the base assembly (16). (Fig. 3/1).
- Tighten all loosely fastened screws.
- Screw the fitted tubes to the tube guides (10) using the M8X10 hexagonal screws (9) and tighten.
- Affix the rubber blank (not illustrated) onto the wire feed carrier plate (2).
- Insert the press arbor socket (3) into the relevant hole in the wire feed carrier plate (2).
- Insert the press arbor (4) into the fitted socket (3).
- Screw the clamping plates (7) onto the wire feed carrier plate (2) using the star handles (1).



After assembly, check that all the screws and connections are tightly secured. Ensure that the correct clamping plates (7) for the equipment being fitted have been used (chap. 2.2 and chap. 4.3).

The procedure for fitting the holder plates (5) depends on the wire feed case being transported (chap. 4.4)

4 Commissioning

4.1 Area of application

4.1.1 TROLLY 70-1

- Transport of TRITON 260 + COOL 30 U20 + WELDON DRIVE 4/4L or TRITON 400/500, SIRION 400/500 and PHOENIX 300/400/500 + PHOENIX DRIVE 4/4L only

This produces the following possible combinations:

TRITON 260	X	X	X	X
COOL 30 U20			X	X
Opt. TRITON 260 holding plate			X	X
WELDON DRIVE 4 / 4L		X		X

TRITON 400/500, SIRION 400/500, PHOENIX 400/500	X	X		
WELDON or PHOENIX DRIVE 4 / 4L		X		
PHOENIX 300				X
Opt. PHOENIX 300 holding plate				X

- Bracket for one gas cylinder (chap.2, J1 and chap. 4.5)
- Brackets for all the necessary additional components:
Welding torches, hose assemblies, accessories and filler metals

4.1.2 TROLLY 70-2 and TROLLY 70-2 DF

- Exclusive transport of:
TRITON 400/500; SIRION 400/500; PHOENIX 300/400/500
+ COOL 71 U40/41 or MULTIVOLT 70-500
+ WELDON or PHOENIX DRIVE 4 / 4L

This produces the following possible combinations:

TRITON 400/500; SIRION 400/500; PHOENIX 400/500	X	X		
COOL 71 U40 / 41 or MULTIVOLT 70-500	X	X	X	
WELDON or PHOENIX DRIVE 4 / 4L		X		
PHOENIX 300				X
Opt. PHOENIX 300 holding plate				X

- Bracket for one gas cylinder (TROLLY 70-2) (chap.2, J1 and chap. 4.5) or for two gas cylinders (TROLLY 70-2 DF)
- Brackets for all the necessary additional components:
Welding torches, hose assemblies, accessories and filler metals

4.1.3 TROLLY 70-3 and TROLLY 70-3 DF

- Exclusive transport of:
TRITON 400/500; SIRION 400/500; PHOENIX 300/400/500
+ COOL 71 U40/41 + MULTIVOLT 70-500
+ WELDON or PHOENIX DRIVE 4 / 4L

This produces the following possible combinations:

TRITON 400/500; SIRION 400/500; PHOENIX 400/500	X	X		
COOL 71 U40 / 41	X	X	X	
MULTIVOLT 70-500	X	X	X	
WELDON or PHOENIX DRIVE 4 / 4L		X		
PHOENIX 300				X
Opt. PHOENIX 300 holding plate				X

- Bracket for one gas cylinder (TROLLY 70-3) (chap.2, J1 and chap. 4.5) or for two gas cylinders (TROLLY 70-3 DF)
- Brackets for all the necessary additional components:
Welding torches, hose assemblies, accessories and filler metals

4 Commissioning

4.2 Transport/set-up

The points listed in chapters 4.2.1, 4.2.2, 4.2.3 und 4.2.4 are examples only.

More detailed information can be found in the general and specific safety and accident prevention regulations.

4.2.1 Crane transport

- The transport vehicles can be transported by crane by attaching the lifting lugs to the fixing points (fig. 4/1).



Use only these fixing points for lifting by crane.

- Before crane transport remove the gas cylinder from the transport vehicle.
- Before crane transport, remove wire feed unit from transport vehicle.
- If the transport vehicle has to be moved with the wire feed unit, ensure that the unit is sufficiently well attached and secured.
- The wire coil must always be removed when moving the machine with a crane, with the wire feed unit attached.
- When moving the machine with a crane with the wire feed units WELDON DRIVE 4L or PHOENIX DRIVE 4L attached, ensure that the press arbor (chap.2, N1) is removed from the bracket (chap.2, M1) before attaching and securing the unit.



Fig. 4/1



- During crane transport no-one should be standing under the suspended load.
- Before lifting it must be ensured that all the fixing points are securely assembled.
- Before and after lifting, check that the snap closures between the cooling unit and welding machine are sitting properly.
- Before and after lifting, check that the holding plates for fixing the units to the transport vehicle are correctly positioned.
- The clamping plates for housing the welding machine handle must be securely attached.
- All loose parts such as accessories and welding torches are to be removed from the transport vehicle before lifting.
- Only use undamaged cables for lifting.
- Do not raise or lower the load suddenly.

4.2.2 Assembly



Risk of injury when assembling the machines on the transport vehicles.

- Avoid the risk of injury by careful, prudent and foresighted actions during assembly onto the transport vehicle.
- First fit the cooling module, then the welding machine and lastly the wire feed case.
- For WELDON and PHOENIX DRIVE 4L wire feed units, the angle section of the A2 rail should be fitted so that it points downwards (fig. 4/7). Otherwise there is a risk of injuries from crushing when the wire feed units are rotating.
- For housing WELDON and PHOENIX DRIVE 4 wire feed units, the angle section of the A2 rail should be fitted so that it points upwards (fig. 4/9).
- Always use original accessories and spare parts.

4 Commissioning

4.2.3 Installation



The transport vehicle must be installed on a firm base.

- Do not position on uneven surfaces.
- The floor must not be at an angle and must be level.
- When moving and setting up the transport vehicle, it is only secure against falling to an angle of 10°.
- Caution is required on a sandy, loamy, soft, wet or slippery base.
- Avoid projecting parts such as accessories and torches. There is the risk of becoming caught on the machine, e.g. people passing by.
- Do not place on glowing slag or caustic liquids, or the wheels could be damaged.

4.2.4 Procedure



The following points must be noted when using the transport vehicle:

- When moving and setting up the transport vehicle, it is only secure against falling to an angle of 10°.
- Prudent behavior is a necessity when using the transport vehicle.
- Before using the transport vehicle, ensure that all fixing points are securely attached.
- Before and after lifting, check that the snap closures between the cooling unit and welding machine, and the holding plates for fixing the units to the transport vehicle, are correctly positioned.
- The clamping plates for housing the welding machine handle must be securely attached.
- Caution: The centre of gravity of the loaded transport vehicle changes according to the load, e.g. with different sizes of gas cylinders.
- Do not use sloping routes when pushing the transport vehicle.
- The base on which the transport vehicle is moved must be level, firm and dry. If the base is uneven (e.g. ground beams) an additional securing device specific to the wire feed unit must be fitted.
Caution is required on a sandy, loamy, soft, wet or slippery base.
- The route to be travelled by the transport vehicle should be checked for obstacles beforehand. Sufficient space must be ensured, particularly in narrow passages, such as doors. When using the transport vehicle there is a risk from objects on the ground, because additional tilting moments may arise.
- Ensure that projecting parts such as accessories or welding torches do not become caught when pushing past obstacles.
- If large gas cylinders in particular are assembled on the transport vehicle, the forces to be applied when using should be estimated correctly.
- When pushing the transport vehicle keep both hands on the handles.
- Do not move over glowing slag or caustic liquids, or the wheels could be damaged.
- The chains for fixing the gas cylinders must always be hung correctly on the hooks provided for them and must be lying firmly against the gas cylinders.

4 Commissioning

4.3 Fitting units onto the transport vehicle



For the combination options for assembling machines and modules (e.g. COOL 30 U20 or MULTIVOLT 70-500) in relation to the different transport vehicles, please see the tables in chap. 4.1

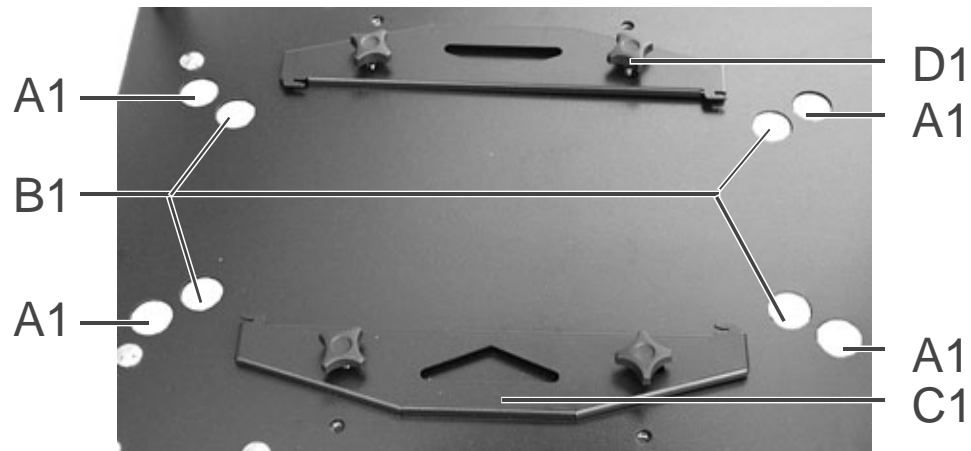


Fig. 4/2

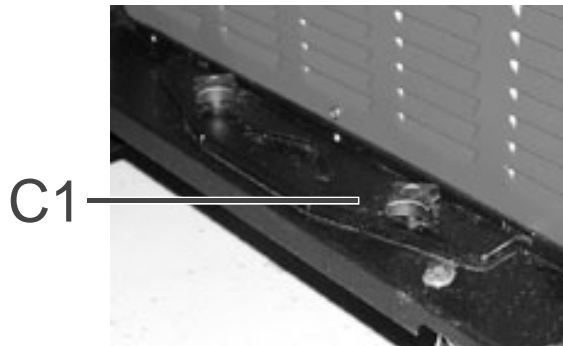


Fig. 4/3

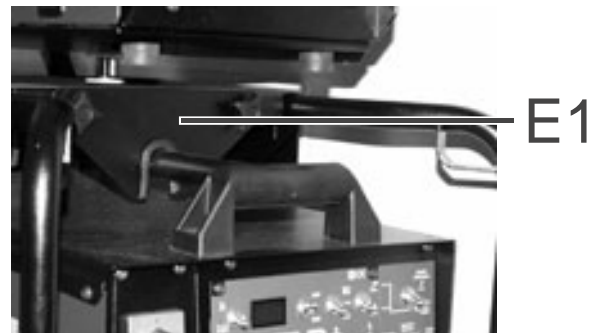


Fig. 4/4

Assembling the welding machine or module

- Place the welding machine or module (e.g. COOL 30 U20 or COOL 71 U40/41) in the corresponding holes using the rubber feet:
Place the TRITON 260 or COOL 30 U20 into the inner holes B1.
Place TRITON 400/500, SIRION 400/500 and PHOENIX 300/400/500 or COOL 71 U40/41 and MULTIVOLT 70-500 in the outer holes A1.
- Hook holding plate C1 into the relevant recesses on the machine (fig. 4/3) and screw tight using the rotary handles D1.
- Fit the clamping plates (fig. 4/4; E1) using the relevant recesses on the welding machine handle and tighten using the rotary handles (see fig. 4/4 and fig. 4/5)

Assemble the welding machine with module/s

- Place the module with the rubber feet into the corresponding holes (fig. 4/2)
Place COOL 30 U20 into the inner holes B1.
Place COOL 71 U40/41 or MULTIVOLT 70-500 into the outer holes A1.
- Fit the welding machine onto the module using the snap closures located on the module.
- Fit the clamping plates (fig. 4/4; E1) using the relevant recesses on the welding machine handle and tighten using the rotary handles (see fig. 4/4 and fig. 4/7; B2)



Before and after assembly work check the snap closures are properly located.

For transport with the TROLLY 70-2 / 70-2 DF, one module and for the TROLLY 70-3 / 70-3 DF two modules must be assembled in addition to the welding machine.

When transporting the TRITON 260 + COOL 30 U20 with the transport vehicle TROLLY 70-1 or PHOENIX 300 with the transport vehicles TROLLY 70-1; 70-2 / 70-2 DF (+1 module) or TROLLY 70-3 / 70-3 DF (+2 modules) special optional holding plates (clamping plates) are required. (chap. 2.2 and chap. 4.1)

4 Commissioning

4.4 Fitting wire feed units



For WELDON and PHOENIX DRIVE 4L wire feed units, the angle section of the A2 holder plate should be fitted so that it points downwards (fig. 4/7). Otherwise there is a risk of injuries from crushing when the wire feed units are rotating.

For housing WELDON and PHOENIX DRIVE 4 wire feed units, the angle section of the A2 holder plate should be fitted so that it points upwards (fig. 4/9).

- Insert the end of the tube package on the wire feed unit through the strain-relief (fig. 4/7) and lock by turning to the right (fig. 4/8).



Fig. 4/5



Fig. 4/6

4.4.1 Fitting WELDON DRIVE 4L or PHOENIX DRIVE 4L

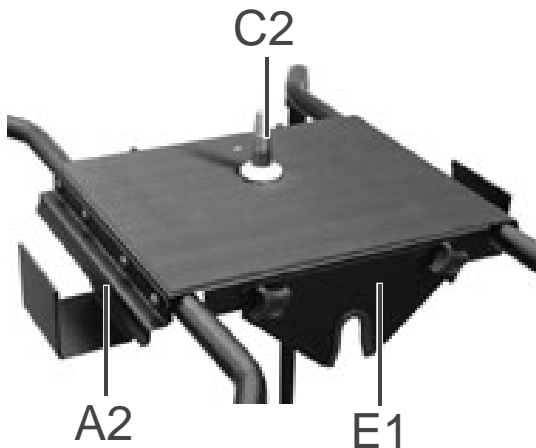


Fig. 4/7



Fig. 4/8

- The wire feed unit should be fitted with the retainer located on the base plate on the pin plug C2 (fig. 4/7 and fig. 4/8).

4.4.2 Fitting WELDON DRIVE 4 or PHOENIX DRIVE 4



Fig. 4/9



Fig. 4/10

- Position the wire feed unit on the relevant rails A2 (fig. 4/9 and fig. 4/10)

4 Commissioning

4.5 Fixing and securing gas cylinders

- Position the gas cylinders on the carrier plate (chap.2; J1)
- Secure the gas cylinders with the chains (chap.2; K1)
- Ensure that the chains are positioned securely against the gas cylinders.



Large cylinders with 50 l and 300 bar are generally not permissible.

	TROLLY 70-1	TROLLY 70-2	TROLLY 70-2 DF	TROLLY 70-3	TROLLY 70-3 DF
20L gas cylinder, max. 200bar	1x	1x	1x - 2x	1x	1x - 2x
20L gas cylinder, max. 300bar	1x	1x	1x - 2x	1x	1x - 2x
50L gas cylinder, max. 200bar	1x	1x	1x - 2x	1x	1x - 2x
50L gas cylinder, max. 300bar	Not normally permissible!				

5 Spare parts list

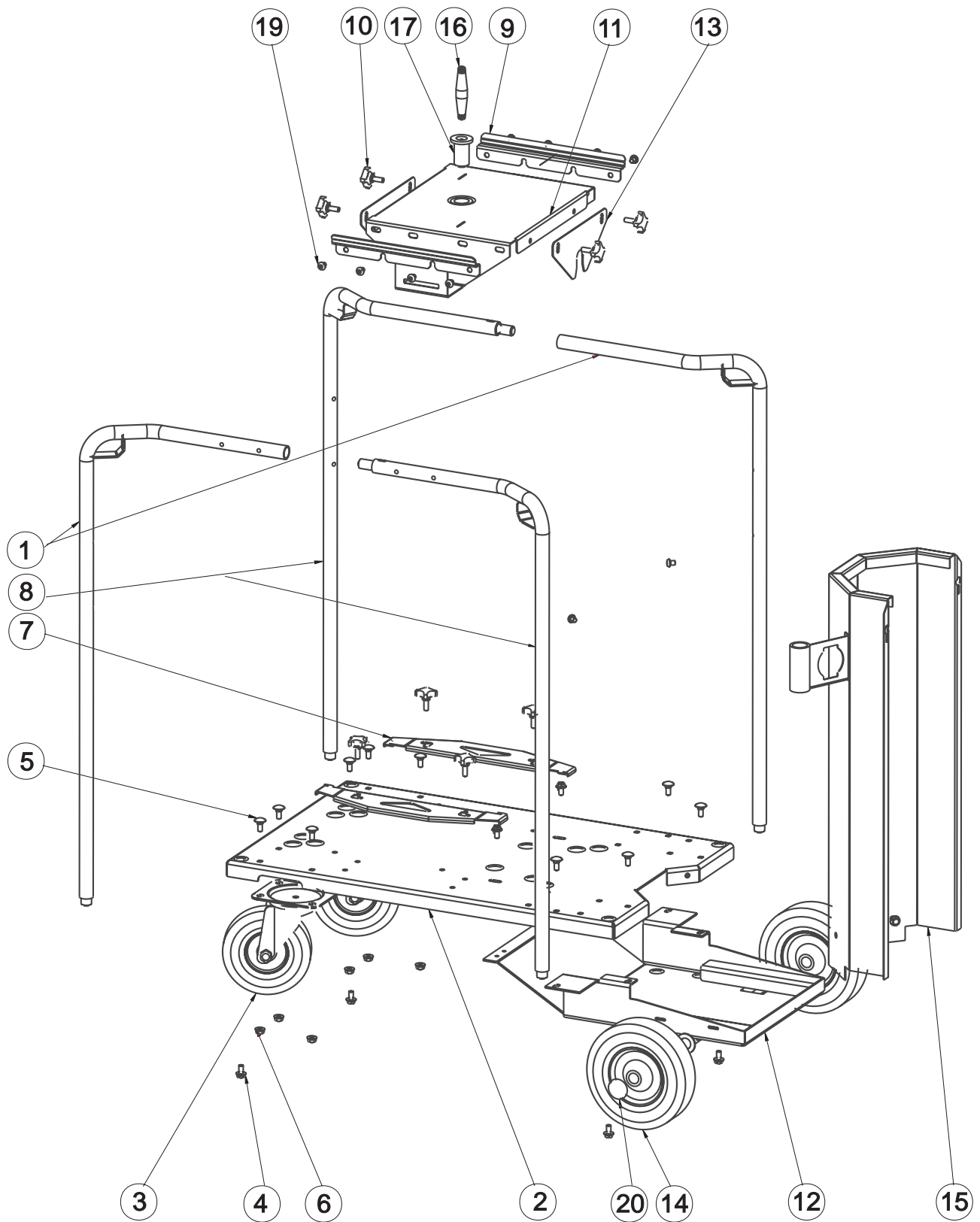


Fig. 4/1 TROLLY 70-2

5 Spare parts list

Item	Quantity	Item No.	Description	TROLLY 70-1	TROLLY 70-2	TROLLY 70-2 DF	TROLLY 70-3	TROLLY 70-3 DF
1	2	094-007608-00002	Tube A low	X				
1	2	094-007523-00005	Tube A medium		X	X		
1	2	094-007910-00000	Tube A high				X	X
2	1	094-007522-00002	Base plate	X	X	X	X	X
3	2	094-000327-00000	Guide castor	X	X	X	X	X
4	8	064-000562-00000	M8X15 self-locking hexagonal screw	X	X	X	X	X
5	10	094-001125-00000	M8X16 locking screw	X	X	X	X	X
6	10	064-000560-00000	M8 lock-tooth nut	X	X	X	X	X
7	2	094-007524-00000	Machine holder plate	X	X	X	X	X
8	2	094-007607-00002	Tube B low	X				
8	2	094-007519-00005	Tube B medium		X	X		
8	2	094-007911-00000	Tube B high				X	X
9	2	094-007598-00000	DV302 holder plate	X	X	X	X	X
10	8	094-007573-00001	Star handle	X	X	X	X	X
11	1	094-007520-00003	WF carrier plate	X	X	X	X	X
12	1	094-000141-00011	Cylinder base	X	X		X	
12	1	094-007917-00000	Cylinder base (similar to diagram)			X		X
13	2	094-007597-00001	Standard clamping plate	X	X	X	X	X
13	2	094-007606-00001	Special clamping plate for TRITON 260 with cooling module	X				
13	2	094-008104-00000	Special clamping plate for PHOENIX 300	X	X			
14	2	094-000179-00000	Wheel	X	X	X	X	X
15	1	094-007521-00004	Bottle holder	X	X		X	
15	1	094-007918-00000	Bottle holder (similar to diagram)			X		X
16	1	094-007483-00003	Press arbor	X	X	X	X	X
17	1	094-007371-00002	Press arbor socket	X	X	X	X	X
19	10	094-000724-00000	M8X10 black galvanised hexagonal screw	X	X	X	X	X
20	2	094-000213-00000	Wheel fastening	X	X	X	X	X
ohne Abb.	1	094-007600-00000	Rubber blank	X	X	X	X	X
ohne Abb.	1-2	094-000178-00000	Chain	X	X	X	X	X
ohne Abb.	2	094-007941-00000	Tube guide			X		X
ohne Abb.	2	094-007919-00000	Cylinder guide			X		X