

Dear modelling enthusiast!

We are glad that you have decided on one of the precious WEDICO truck models! For the manufacture of individual parts WEDICO uses durable materials of high quality - rarely to find in these days. This guarantees durability and enjoyment with your model for years to come.

If you should ever require replacement parts, please get in touch with your dealer or directly with WEDICO. For order purpose it is important using not only those EDP-numbers mentioned within the general parts list but also indicating the necessary details concerning colour, quantity and exact term of the spares required. Please note that any type of spares for this wheel-loader model can be supplied only if you have returned to us the registration card included with this kit.

Enjoy the assembly!

You're WEDICO-Team

#### General notes

Please follow the steps of assembly accordingly to the instructions. Each single assembly step is described and illustrated, and furthermore do the parts lists indicate the required components for the actual construction step. Carefully observe the notes explaining the various steps of assembly and use only those parts which are provided. This will insure a correct result of assembly.

It is the static model version only which is generally shown in the illustration. Components shown in the illustration but making part of the accessory sets of either the Hydraulics or the Electrics, are specially marked by broken lines and provided with special notes. The illustrations do not always include all the before-hand mounted parts if these are not belonging to the actual assembly step.

In order to join those components not to be screwed, use customary all-purpose glue for screws to be fixed directly to plastic parts: Before you start mounting the plastic components, first cut the necessary threadings with help of the screw provided for this purpose.

**Tip:** The make-up of this instruction allows putting together your own booklet if you wish so. For this purpose you have to fold and stick the pages as follows:

1. Turn round the **first page** with the **English text facing downwards**, and lay **the next page** on top of the first, with the **English text facing upwards**.
2. Glue the two pages together at the left outer edge (e.g. using adhesive tip) and fold the top page across to the left (with the fold vertically in the middle).
3. Lay the **next page** on top of the previous one with the **English text facing upwards**, stick the left outer edges and fold over to the left again as before. Similarly add remaining pages.
4. Finally glue together all pages at the inner edges, too, and fold **the original page over as a cover**, sticking it firmly at the left hand edge.

#### Technical description

<b>Measurements (starting position)</b>	Length .....	745 mm
	Width .....	234 mm
	Height .....	253 mm
	Track (tread) .....	186 mm
	Weight (Driving model) .....	9.7 kg
<b>Finish</b>	Extremely hard epoxy powder coating; original Caterpillar colour. Excellent base when repainting for special purposes.	
<b>Super-structure</b>	All superstructure components made are made from aluminium sheet panels or from aluminium die-cast of 1.5 to 2.5mm thickness. Main frame made from 6mm thick aluminium sheet plane. The bumper is made from zinc die-cast. Fastening components made of stainless steel. Cab including true-to-original trim. True-to-original tyres made of soft rubber with reproduction of original tread pattern. Front and rear wheels run in the same track. Pendulous rear axle and rigid front axle fixed to the front carriage. Nearly all of the individual parts are screwed. This kit model may be dismounted and reassembled again.	
<b>Drive</b>	WEDICO-Bühler electric motor, rated 12 volts, 7-segment collector. Idling speed 6000 rpm. Torque 5 Ncm (approx. 500 pcm) at 4000 rpm. Power drawn under load at maximum torque approx. 3A. Current drawing at idle running with connected gear and two differentials approx. 0.5A.	
<b>3-speed gearbox "All-Wheel"</b>	3-speed gearbox with long-time greasing, helical gearing technique, 14 ball bearings, gear wheels and housing made from metal. Reduction ratio 12:1 / 6:1 / 3:1.	
<b>Drive train</b>	Front and rear driving axles are made from metal, including partially lockable differentials. Gearbox manufactured as planetary construction; reduction ratio 15:1. Stainless steel drive shaft with cardan joints between gear and front axle differential; also, cardan joints between gear and rear axle differential.	
<b>Hydraulic</b>	Hydraulic valves provided for the functions of lifting and lowering of the boom, dumping and lifting of the bucket as well as steering to the right and left-hand side.	

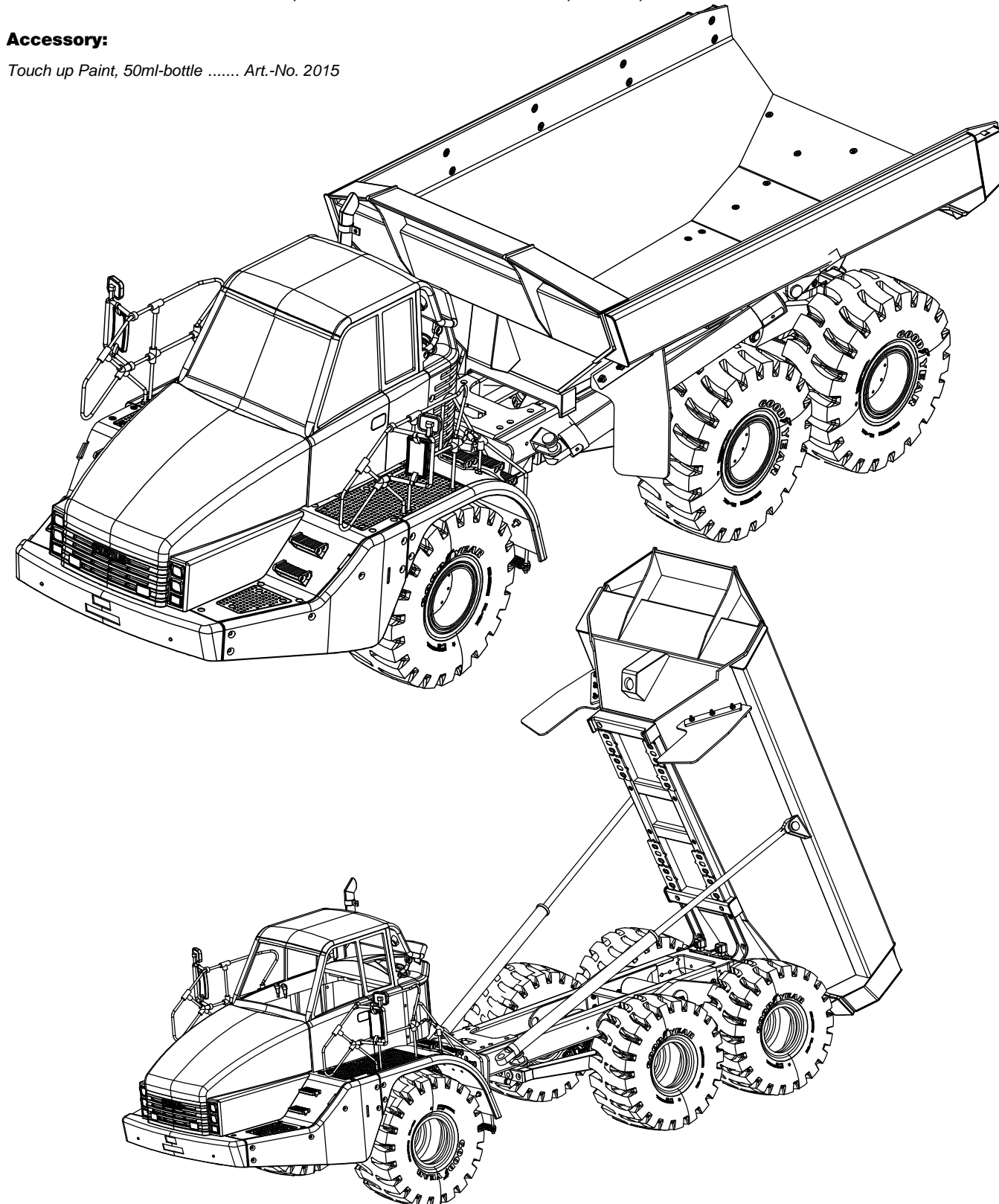
#### Include:

**Set of Hydraulics, Art.-No. 3110-1** including the hydraulic pump plus oil filter, 2-fold control valve incl. the electrics, hoses plus small parts, and one bottle of oil.

**Set of Electrics, Art.-No. 3110-2** including the electrical system, all-wheel 3 speed gearbox, electric motor 12V, NiMH battery pack 12V; 2,7 Ah, speed controller incl. the sound module plus loudspeaker.

#### Accessory:

Touch up Paint, 50ml-bottle ..... Art.-No. 2015



**Overview of screws and part list**

**DUMPER Caterpillar 740**

Qty	No.	Assembly part	Qty.	No.	Assembly part	Qty.	No.	Assembly part	Qty.	No.	Assembly part	Qty.	No.	Assembly part
7	20016	Raised cheese head screw M3 x 6	4	29962	Pan head screw with cross recess M2,5 x 8	1	30784	Guide bush, steering triangle front	1	30920	Handrail, curved, rear, right	2	31072	Indicator body
15	20018	Raised cheese head screw M3 x 8	1	30030	Gearbox	1	30786	Cardan joint hexagon outside short	1	30922	Handrail, rear, right, inside	5	31074	Hexagon socket head cap screw M4 x 16
6	20020	Raised cheese head screw M3 x 10	1	30082	Bühler Motor 2 with pinion 14 tooth white	1	30788	Cardan joint hexagon inside Nm=10	1	30924	Handrail, middle, left	1	31076	Differential rear axle
2	20022	Raised cheese head screw M3 x 12	2	30122	Hexagon head bolts M3 x 12	1	30802	Profile hind carriage right	1	30926	Handrail, curved, rear, left	1	31078	Differential rear axle 15°
18	20024	Raised cheese head screw M3 x 16	4	30494	Raised cheese head screw M2 x 20	1	30804	Profile hind carriage left	1	30928	Step with lateral holes, front, right	1	31080	Differential front axle
34	20028	Countersunk screw M3 x 6	12	30568	Prevailing torque type hexagon nuts M3	1	30806	Thrust collar	1	30930	Step with lateral holes, top, right	2	31082	Prevailing torque type hexagon nuts M4
10	20030	Countersunk screw M3 x 8	6	30620	Axle suspension	1	30808	Holder angle, rear profile	1	30932	Step with lateral holes, front, left	1	31084	Countersunk screw M4 x 16
4	20032	Countersunk screw M3 x 12	8	30622	Spring plate	1	30810	Holder triangle	1	30934	Step with lateral holes, top, left	4	31086	Bed plate left
18	20034	Countersunk screw M3 x 10	4	30624	Rubber-bonded spring 10 x 10, M4	1	30812	Motor trough	1	30936	Radiator grill	1	31088	Holder, body of a trough tipping wagon
2	20036	Hexagon head bolts M4 x 8	2	30630	Bow, rear axle	2	30814	Mud flap, body of a trough	2	30938	Light box	6	31092	Retaining bushing, big (H021) φ 3,1mm
37	20040	Nut M3	1	30646	Conductor of a bore hole	1	30816	Front pieces, body of a trough tipping wagon	1	30942	Manufacture mark	1	31100	Cardan joint hexagon inside NL = 15mm
2	20046	Washer φ 3,2	1	30648	Dump-bell shaft	1	30818	Trough, body of a trough tipping wagon	2	30944	Foglamp, lens	2	31102	Cardan joint hexagon inside NL = 20mm
2	20048	Washer φ 4,3	2	30652	bolt, steering cylinder front	1	30820	safety loop	4	30946	Headlight, lens	2	31104	Cardan joint hexagon inside NL = 27,5mm
2	20052	Pan head tapping screw 2,2 x 4,5	2	30654	bolt, steering cylinder rear	1	30822	Side panel right	2	30948	Indicator, lens	2	31106	Cardan joint hexagon outside NL = 10mm
2	20054	Serrate washer φ 3,2	1	30662	Retainer, steering triangle	1	30824	Side panel left	1	30950	Plat, bow engine bonnet	2	31108	Cardan joint hexagon outside NL = 22,5mm
6	20058	Retaining washer for shafts φ 3,2	1	30664	Seat, steering triangle	1	30826	Couver strip rear	14	30952	Step with lateral holes, mud guard	1	31110	Cardan joint hexagon outside - outside
4	20262	Countersunk screw M3 x 20	1	30666	Guide bush	2	30828	Holder loop	4	30960	Handrail support, straight, 4 holes	2	31112	Thrust ball bearing 20-35-10 (51104)
10	20410	Adhesive pad, double-sided	1	30668	Steering triangle rear left	1	30830	Frame end	2	30962	Handrail support, straight, 3 holes	4	31114	Countersunk screw M2 x 20
218	21208	Nut M2	1	30670	Steering triangle rear right	2	30832	Transverse beam	2	30964	Handrail support, curved, 3 holes, front	1	31116	Reverse light lens
2	21210	Washer φ 2,2	1	30672	Holder rear hind carriage	2	30834	Side rail left	2	30966	Handrail support, curved, 4 holes	1	31138	Hydraulik-pump complete
8	21268	Raised cheese head screw M2 x 6	1	30674	Retainer, steering triangle front	4	30836	Bed plate right	2	30968	Handrail support, curved, 4 holes, rear	1	31142	Hydraulic pump
10	21269	Raised cheese head screw M2 x 8	1	30676	Holder, retainer steering triangle front	2	30838	Holder, cylinder body of a trough tipping	1	30970	Mirror support, left	1	31146	Hose H052 φ 3,00mm
12	22898	Retaining washer for shafts φ 5	1	30680	Steering triangle front right	2	30842	Terminel strip, mud flap	2	30974	Lamp holder	1	31152	Decor
2	22900	Washer, big φ 3,2	1	30682	Axle, steering triangle front	1	30844	Holder, reverse light	2	30976	Step with lateral holes, ladder	8	31462	Set nut M3
2	22904	Washer, big φ 4,3	1	30684	Axle, steering triangle right	1	30846	Below receiver, reverse light	4	30978	Support, step with lateral holes			
6	23492	Raised cheese head screw M2 x 16	2	30686	Guide bush	1	30848	Exhaust manifold clamp	1	30980	Mud guard, front, right, outside			
3	23710	Countersunk screw M3 x 35	1	30688	Holder, differential front right	1	30850	Drivers cabin roof	1	30982	Mud guard, front, right			
6	23742	Hexagon socket head cap screw M4 x 30	1	30692	Holder, differential front left	1	30852	Drivers cabin top unit	1	30984	Mud guard, rear, right			
4	24868	Pan head tapping screw φ 2,2 x 9,5	1	30694	Holder, gear right	1	30854	Side panel rear right	1	30986	Mud guard, front, left, outside			
2	25072	Cross recessed countersunk head tapping	1	30696	Holder, gear left	1	30856	Drivers cabin below unit	1	30988	Mud guard, front, left			
60	25224	Countersunk screw M2 x 5	6	30700	Adapter rim	1	30858	Windows	1	30990	Mud guard, rear, left			
6	26240	Raised cheese head screw M2 x 12	2	30706	Holder lifting cylinder	1	30860	Side panel rear left	1	30992	Side part, right			
124	26248	Countersunk screw M2 x 6	2	30708	Bearing bush lifting cylinder	1	30862	Ventilation grid	1	30994	Side part, left			
8	26650	Serrated washer φ 4,3	2	30710	Holder, steering cylinder front	1	30864	Exhaust panel	1	30996	Mud guard, body, right			
26	26688	Countersunk screw M2 x 8	1	30712	Holder hind carriage	1	30866	Drivers cabin inside	1	30998	Supporting plate, right			
6	26902	Raised cheese head screw M2 x 10	1	30714	Guide bush front	1	30868	Side panel inside	1	31000	Mud guard, body, left			
2	27410	Countersunk screw M2 x 12	1	30728	Holder, center pivot steered top	1	30870	Drivers seat below unit	1	31002	Supporting plate, left			
4	27412	Bolt with thread, brass M2	1	30730	Holder, center pivot steered below	1	30872	Drivers seat armrest	4	31006	Holder, step with lateral holes, front			
4	28018	Pan head tapping screw φ 2,9 x 9,5	1	30732	Holder, vertical bearing	1	30874	Drivers seat squab	2	31008	Holder, step with lateral holes, rear, left			
2	28120	Pan head screw with cross recess M2,5 x 5	1	30734	Distance bow big	1	30876	Drivers seat	2	31010	Holder, step with lateral holes, rear, right			
1	28388	Switch panel for 796	2	30736	Bearing hind carriage	1	30878	Co-drivers seat	2	31012	Mirror foil for CAT740-A-19-PL+20-PL			
1	28390	Control board for 796	4	30738	Bearing front carriage	1	30880	Dashboard	1	31014	Trellis, engine			
1	28392	Lighting board front for 796	1	30740	Side panel, small outside	1	30882	Exhaust half, right	4	31016	Bolt lifting cylinder-frame / trunk			
1	28394	Lighting board rear for 796	1	30742	Side panel, small inside	1	30884	Exhaust half, left	4	31018	Bolt, center pivot steered top / trunk			
9	28576	Countersunk screw M2 x 10	1	30744	Side panel, big outside	1	30886	Holder roof, right	2	31020	Rear light lens			
4	28676	Threaded bushing M3 x 18	1	30746	Side panel, big inside	1	30888	Holder roof, left	2	31022	Rear light body			
9	28820	Bolt Cardan Ø 3x 10	1	30748	Cap pieces of the bearing front	1	30890	Steering wheel	1	31024	Holder pump - control valve block - oil filter			
2	28874	Ball bearing 8 x 4 x 3 ZZ	1	30750	Cap pieces of the bearing rear	1	30892	Direction indicator-windscreen box	1	31026	Holder, mud guard, left			
9	28980	Grooved pin	1	30752	Distance bow	2	30894	Shift gears	1	31028	Holder, mud guard, right			
1	28984	Ball bearing 15 x 10 x 4 ZZ	2	30754	Bearing steering triangle	1	30896	Bumper	1	31030	Holder, oil filter			
6	29334	Tyre GOODYEAR	2	30756	Rear light (left-right)	1	30898	Engine bonnet	1	31040	Holder, loudspeaker			
6	29484	Distance sleeve tyre	2	30758	Cover rear light	1	30900	Bow engine bonnet	1	31046	Control valve block with 2-fold control valve			
1	29494	Loudspeaker 50mm	1	30760	Holder, body of a trough tipping wagon	2	30902	Rail front bow	1	31050	Oil filter DUMPER			
4	29566	Raised cheese head screw M3 x 4	7	30762	Threaded pin M3 x 3	2	30904	Rail front stay	1	31052	Steering cylinder, right, with screw fitting			
28	29832	Hexagon socket head cap screw M2 x 8	8	30764	Cardan joint, hole 4 M3	2	30906	Handrail front	1	31054	Steering cylinder, left, with screw fitting			
60	29834	Hexagon socket head cap screw M2 x 10	2	30768	Cardan joint hexagon outside NM = 22,5	2	30908	Rail transition piece, front	2	31056	Lifting cylinder, with screw fitting			
12	29860	Rim CAT yellow	8	30770	Cardan joint hexaeder	2	30910	Rail adaptor vertical	1	31060	AKKU DUMPER 12 V 3000mAh			
12	29954	Retaining bushing	2	30776	Cardan joint hexagon inside NM = 20	2	30912	Rail transition piece, middle	1	31062	Speedcontroller with sound module,			
10	29956	Retaining bushing inside diameter φ 3,3mm	2	30778	Cardan joint hexagon inside NM = 27,5	1	30914	Handrail, middle, right	2	31068	Indicator lens, yellow			
2	29958	T-piece small H016 for φ 3,00mm hose	2	30780	Cardan joint hexagon outside NM = 10	2	30916	Handrail, rear, outside	2	31069	Indicator lens, red			
2	29960	T-piece big H017 for φ 3,90mm hose	1	30782	Holder, steering triangle rear	2	30918	Rail adaptor vertical, rear	4	31070	Reflector reverse light			
4	31502	Hexagon socket head cap screw M3 x 35	1	30678	Steering triangle front left	2	30840	Holder angle, mud flap	1	30972	Mirror support, right	1	31148	Hose H058 φ 3,90mm



Screws and hardware 1:1

**General notes**

Please follow the steps of assembly accordingly to the instructions. Each single assembly step is described and illustrated, and furthermore do the parts lists indicate the required components for the actual construction step. Carefully observe the notes explaining the various steps of assembly and use only those parts which are provided. This will insure a correct result of assembly.

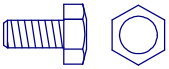
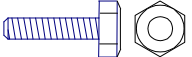


















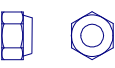



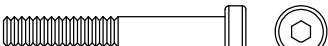


















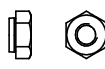

For easier identification of different screws and washers, on this page we are adding an illustration of the **most important parts at original scale**. Not illustrated parts are to be identified by comparing the proportion.

Additionally, on the right side of this page you find a complete list including each single item. Some of the small parts are packed in a higher number of pieces than necessary.

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In order to join those components not to be screwed, use customary all-purpose glue.

For screws to be screwed directly into plastic parts: Before you start mounting the plastic components, first cut the necessary threadings with help of the screw provided for this purpose.

	<b>Hexagon head bolt M4 x 8</b> Artikel Nr.: 20036 DIN 933		<b>Cross recessed countersunk flat head screw M2 x 8</b> Artikel Nr.: 26688 DIN 965
	<b>Hexagon head bolt M3 x 12</b> Artikel 30122 DIN 931		<b>Cross recessed countersunk flat head screw M2 x 6</b> Artikel Nr.: 26248 DIN 965
	<b>Raised cheese head screw M3 x 16</b> Artikel Nr.: 20024 DIN 7985		<b>Cross recessed countersunk flat head screw M2 x 5</b> Artikel Nr.: 25224 DIN 965
	<b>Raised cheese head screw M3 x 12</b> Artikel Nr. 20224 DIN7985		<b>Pan head tapping screw phi 2,9 x 9,5</b> Artikel-Nr.28018 DIN 7981
	<b>Raised cheese head screw M3 x 10</b> Artikel Nr.: 20020 DIN 7985		<b>Pan head tapping screw phi 2,2 x 9,5</b> Artikel-Nr.24868 DIN 7981
	<b>Raised cheese head screw M3 x 8</b> Artikel Nr.: 20018 DIN 7985		<b>Pan head tapping screw phi 2,2 x 6,5</b> Artikel-Nr.23690 DIN 7981
	<b>Raised cheese head screw M3 x 6</b> Artikel Nr.: 20016 DIN 7985		<b>Hexagon socket head cap screw M2 x 10</b> Artikel-Nr.29834 DIN 912
	<b>Raised cheese head screw M3 x 4</b> Artikel Nr.: 29566 DIN 7985		<b>Hexagon socket head cap screw M2 x 8</b> Artikel-Nr.29832 DIN 912
	<b>Raised cheese head screw M2 x 20</b> Artikel Nr.: 30494 DIN 7985		<b>Hexagon nut M3</b> Artikel-Nr.20040 DIN 934
	<b>Raised cheese head screw M2 x 12</b> Artikel Nr.: 26240 DIN 7985		<b>Hexagon nut M2</b> Artikel-Nr.21208 DIN 934
	<b>Raised cheese head screw M2 x 10</b> Artikel Nr.: 26902 DIN 7985		<b>Prevailing torque type hexagon nut M4</b> Artikel 31082 DIN 985
	<b>Raised cheese head screw M2 x 8</b> Artikel Nr.: 21269 DIN 7985		<b>Prevailing torque type hexagon nut M3</b> Artikel 30568 DIN 985
	<b>Raised cheese head screw M2 x 6</b> Artikel Nr.: 21268 DIN 7985		<b>Washer with outside diameter phi 4,3 x 12 x 1</b> Artikel-Nr.22904 DIN 9021
	<b>Hexagon socket head cap screw with low head M4 x 16</b> Artikel Nr. 31074 DIN 7984		<b>Washer phi 4,3</b> Artikel-Nr.20048 DIN 125
	<b>Hexagon socket head cap screw with low head M4 x 30</b> Article Nr. 23742 DIN 7984		<b>Washer with outside diameter phi 3,2</b> Artikel-Nr.22900 DIN 9021
	<b>Hexagon socket countersunk head screw M4 x 16</b> Article Nr. 31084 DIN 965		<b>Washer phi 3,2</b> Artikel-Nr.20046 DIN 125
	<b>Hexagon socket head cap screw with low head M3 x 35</b> Article Nr. 31502 DIN 7984		<b>Shim ring phi 3 x 6 x 0,3</b> Artikel-Nr.25620 DIN 988
	<b>Cross recessed countersunk flat head screw M3 x 30</b> Artikel Nr.: 28212 DIN 965		<b>Washer phi 2,2</b> Artikel-Nr.21210 DIN125
	<b>Cross recessed countersunk flat head screw M3 x 20</b> Artikel Nr.: 20262 DIN 965		<b>Serrated washer phi 4,3</b> Artikel-Nr.26650 DIN 6798
	<b>Cross recessed countersunk flat head screw M3 x 12</b> Artikel Nr.: 20032 DIN 965		<b>Serrated washer phi 3,2</b> Artikel-Nr.20054 DIN 6798
	<b>Cross recessed countersunk flat head screw M3 x 10</b> Artikel Nr.: 20034 DIN 965		<b>Retaining washer for shaft phi 5</b> Artikel-Nr.22898 DIN 6799
	<b>Cross recessed countersunk flat head screw M3 x 8</b> Artikel Nr.: 20030 DIN 965		<b>Retaining washer for shaft phi 4</b> Artikel-Nr.21836 DIN 6799
	<b>Cross recessed countersunk flat head screw M3 x 6</b> Artikel Nr.: 20028 DIN 965		<b>Retaining washer for shaft phi 3,2</b> Artikel-Nr.20058 DIN 6799
	<b>Cross recessed countersunk flat head screw M2 x 16</b> Artikel Nr.: 27666 DIN 965		<b>Set nut M3</b> Artikel-Nr. 31462
	<b>Cross recessed countersunk flat head screw M2 x 12</b> Artikel Nr.: 27410 DIN 965		

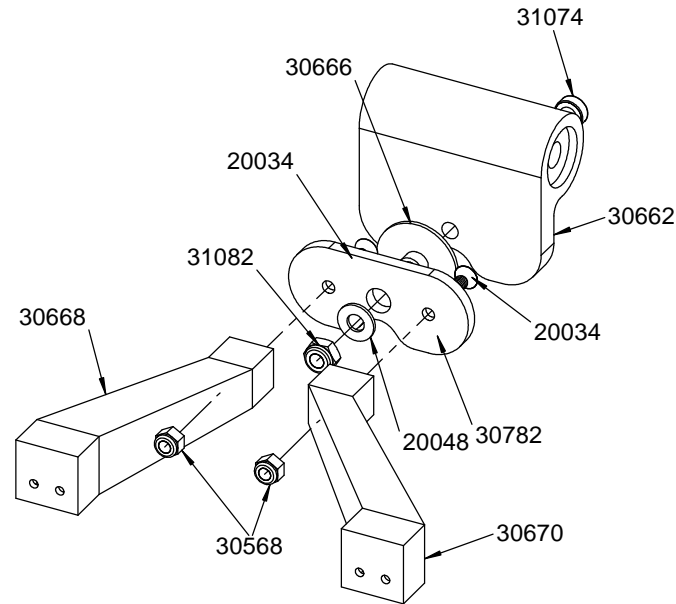
Qty.	No	Assembly part
7	20016	Raised cheese head screw M3 x 6
15	20018	Raised cheese head screw M3 x 8
6	20020	Raised cheese head screw M3 x 10
2	20022	Raised cheese head screw M3 x 12
18	20024	Raised cheese head screw M3 x 16
34	20028	Countersunk screw M3 x 6
10	20030	Countersunk screw M3 x 8
4	20032	Countersunk screw M3 x 12
18	20034	Countersunk screw M3 x 10
2	20036	Hexagon head bolts M4 x 8
37	20040	Nut M3
2	20046	Washer phi 3,2
2	20048	Washer phi 4,3
2	20052	Pan head tapping screw 2,2 x 4,5
2	20054	Serrated washer phi 3,2
6	20058	Retaining washer for shafts phi 3,2
4	20262	Countersunk screw M3 x 20
218	21208	Nut M2
2	21210	Washer phi 2,2
8	21268	Raised cheese head screw M2 x 6
10	21269	Raised cheese head screw M2 x 8
12	22898	Retaining washer for shafts phi 5
2	22900	Washer, big phi 3,2
2	22904	Washer, big phi 4,3
6	23492	Raised cheese head screw M2 x 16
3	23710	Countersunk screw M3 x 35
6	23742	Hexagon socket head cap screw M4 x 30
4	24868	Pan head tapping screw phi 2,2 x 9,5
2	25072	Cross recessed countersunk head tapping screw
60	25224	Countersunk screw M2 x 5
6	26240	Raised cheese head screw M2 x 12
124	26248	Countersunk screw M2 x 6
8	26650	Serrated washer phi 4,3
26	26688	Countersunk screw M2 x 8
6	26902	Raised cheese head screw M2 x 10
2	27410	Countersunk screw M2 x 12
4	27412	Bolt with thread, brass M2
4	28018	Pan head tapping screw phi 2,9 x 9,5
2	28120	Pan head screw with cross recess M2,5 x 5
9	28576	Countersunk screw M2 x 10
4	28676	Threaded bushing M3 x 18
4	29566	Raised cheese head screw M3 x 4
28	29832	Hexagon socket head cap screw M2 x 8
60	29834	Hexagon socket head cap screw M2 x 10
4	29962	Pan head screw with cross recess M2,5 x 8
2	30122	Hexagon head bolts M3 x 12
4	30494	Raised cheese head screw M2 x 20
12	30568	Prevailing torque type hexagon nuts M3
7	30762	Threaded pin M3 x 3
5	31074	Hexagon socket head cap screw M4 x 16
2	31082	Prevailing torque type hexagon nuts M4
1	31084	Hexagon socket countersunk head screw M4 x 16
4	31114	Countersunk screw M2 x 20
8	31462	Set nut M3
4	31502	Hexagon socket head cap screw M3 x 35

### 1. Mounting hind carriage

#### Holder steering triangle rear

Start with mounting the steering triangles **30668** left and **30670** right. Each one countersunk screw **20034** M3 x 10 is put through the holder of the steering triangle **30664** and through the 3,2 mm bore hole in the steering triangle and is fixed with a stop nut **30568** M3. The hexagon socket head cap screw **31074** M4 x 16 is put through the holder of the steering triangle **30662**, the guide bush **30666** and the holder of the rear steering triangle **30782**, and the washer  $\phi$  4,3 and is fixed with a stop nut **31082** M4 only as tightly as a slight turning movement is still possible.

Assembly step 1 Holder steering triangle rear		
Qty.	No	Assembly part
2	<b>20034</b>	Countersunk screw M3 x 10
1	<b>20048</b>	Washer $\phi$ 4,3
2	<b>30568</b>	Prevailing torque type hexagon nuts M3
1	<b>30662</b>	Holder, steering triangle
1	<b>30666</b>	Guide bush
1	<b>30668</b>	Steering triangle rear left
1	<b>30670</b>	Steering triangle rear right
1	<b>30782</b>	Holder, steering triangle rear
1	<b>31074</b>	Hexagon socket head cap screw M4 x 16
1	<b>31082</b>	Prevailing torque type hexagon nuts

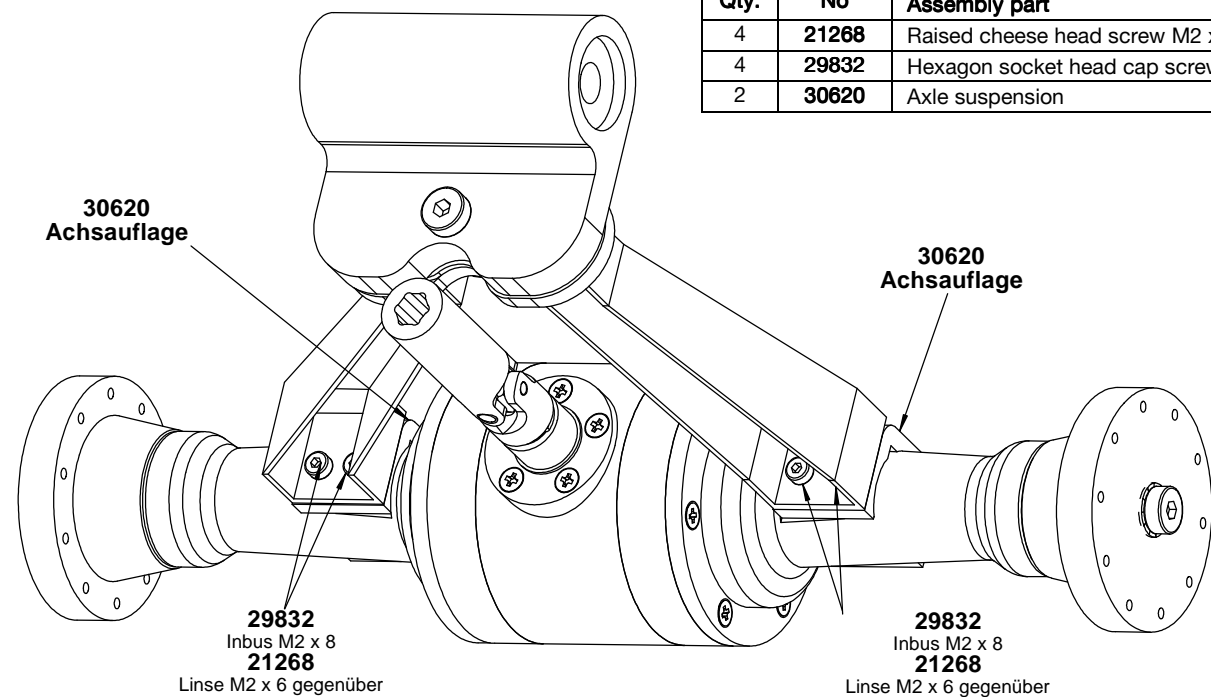


### 2. Mounting hind carriage

#### Steering triangle differential rear

The pre-mounted steering triangle is screwed to the rear differential **31076** with 4 hexagon socket head cap screws **29832** M2 x 8. For this purpose shorten a hex key as necessary in order to stick it into the hexagon along the bevel.

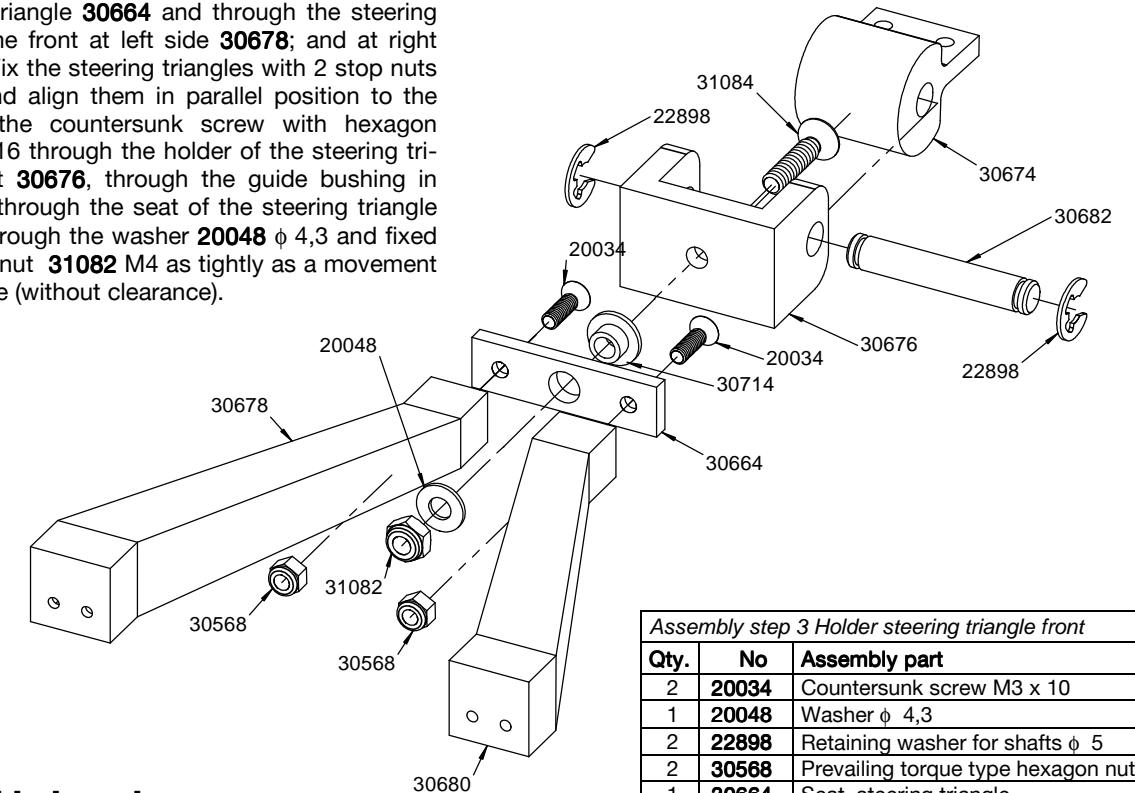
Assembly step 2 Steering triangle-differential rear		
Qty.	No	Assembly part
4	<b>21268</b>	Raised cheese head screw M2 x 6
4	<b>29832</b>	Hexagon socket head cap screw M2 x 8
2	<b>30620</b>	Axle suspension



### 3. Mounting hind carriage

#### Holder steering triangle front

Start with the countersunk screws **20034** M3 x 10 that you stick into the low bore holes of the holder of the steering triangle **30664** and through the steering triangles in the front at left side **30678**; and at right side **30680**. Fix the steering triangles with 2 stop nuts **30568** M3 and align them in parallel position to the holder. Put the countersunk screw with hexagon **31084** M4 x 16 through the holder of the steering triangle in front **30676**, through the guide bushing in front **30714**; through the seat of the steering triangle **30664** and through the washer **20048  $\phi$  4,3 and fixed it with a stop nut **31082** M4 as tightly as a movement is still possible (without clearance).**



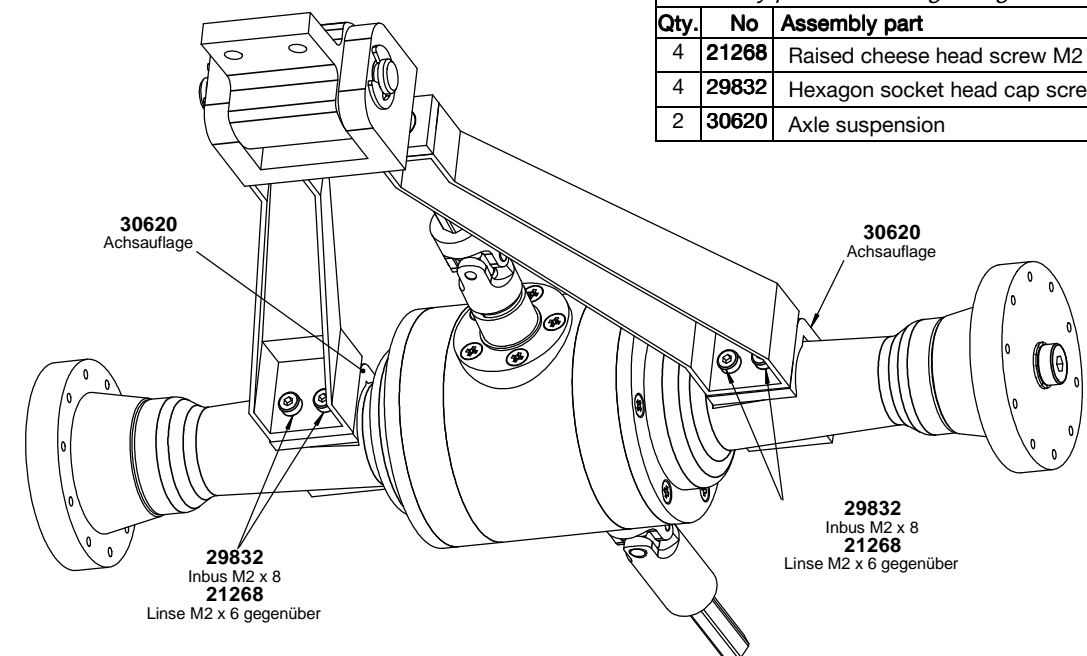
Assembly step 3 Holder steering triangle front		
Qty.	No	Assembly part
2	<b>20034</b>	Countersunk screw M3 x 10
1	<b>20048</b>	Washer $\phi$ 4,3
2	<b>22898</b>	Retaining washer for shafts $\phi$ 5
2	<b>30568</b>	Prevailing torque type hexagon nuts M3
1	<b>30664</b>	Seat, steering triangle
1	<b>30674</b>	Retainer, steering triangle front
1	<b>30676</b>	Holder, retainer steering triangle front
1	<b>30678</b>	Steering triangle front left
1	<b>30680</b>	Steering triangle front right
1	<b>30682</b>	Axle, steering triangle front
1	<b>30714</b>	Guide bush front
1	<b>31082</b>	Prevailing torque type hexagon nuts M4
1	<b>31084</b>	Countersunk screw M4 x 16

### 4. Montage hind carriage

#### Steering triangle differential front

The pre-mounted steering triangle is fixed from the front to the differential rear axle **31078** with 4 hexagon socket head cap screws **29832** M2 x 8. For this purpose shorten a hex key as necessary in order to stick it into the hexagon along the bevel.

Assembly part 2 Steering triangle-differential front		
Qty.	No	Assembly part
4	<b>21268</b>	Raised cheese head screw M2 x 6
4	<b>29832</b>	Hexagon socket head cap screw M2 x 8
2	<b>30620</b>	Axle suspension



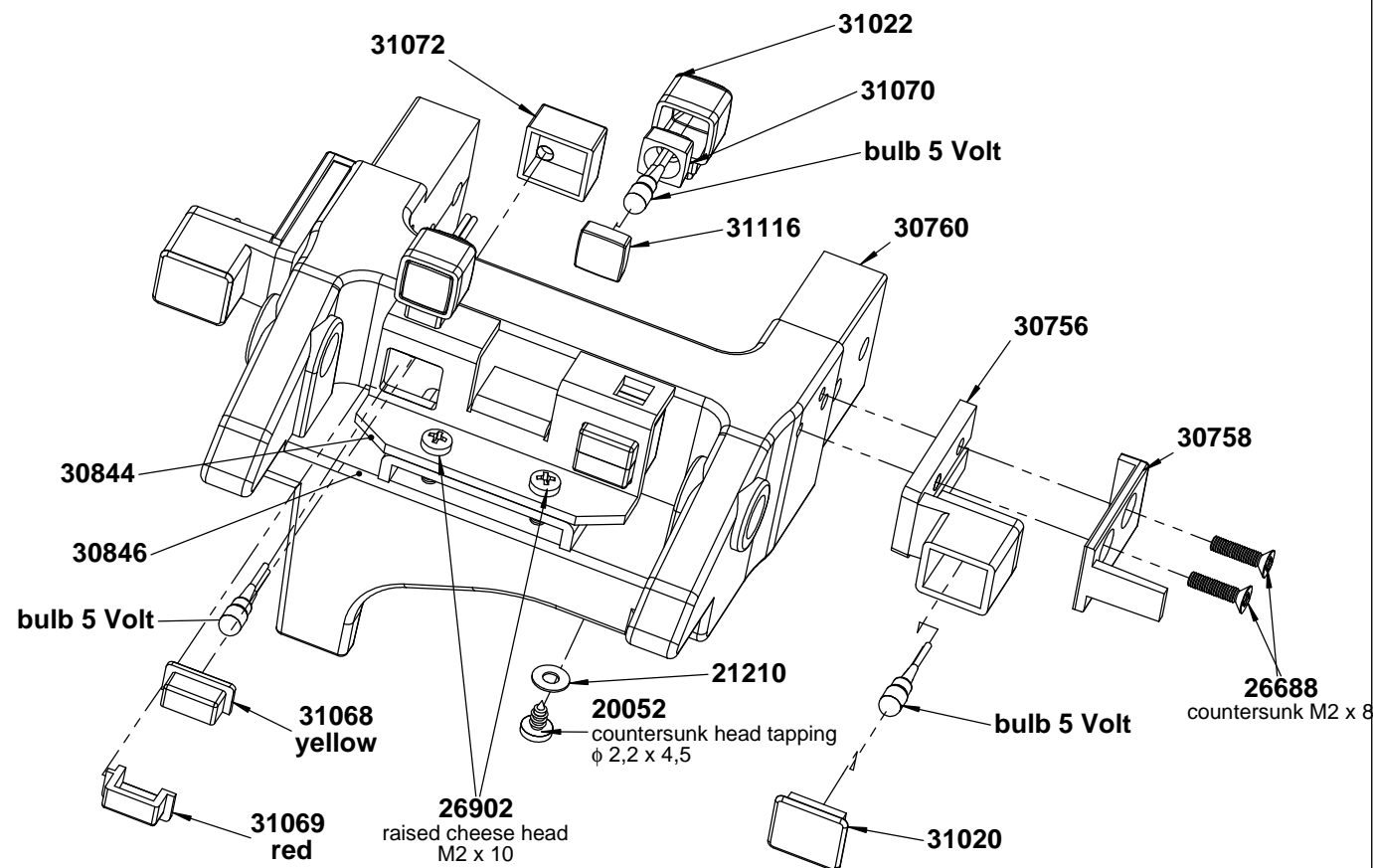
### 5. Mounting hind carriage lighting

Start mounting with the rear lights. Put the wires of a bulb **28360** through the reflector **31070** and through the reverse light body **31022**. The rear light is covered and closed by the glass **31024**. Now the rear light is fixed from inside into the holder **30844** with tapping screw  $\phi$  2,2x4,5 **20052** and washer **21210**.

1 bulb each **28360** is put into the indicator bodies **31072**. As only one bulb can be inserted it must be determined, which function has to be operated: indicator or break light? The glasses are coloured corresponding to the chosen function. Both indicator glasses are fixed with universal glue (do not use glue for plastics !) to the body. Or fix the complete indicators or the break lights from inside into the holder of the reverse lights.

Put one bulb **28360** each into the rear lights **30756**. Lay the wires according the gaps and lead them outside through the bore hole in the slots. The reverse lights are tightened to the holder of the trough **30760** with 2 countersunk screws M2x8 **26688** and the cover **30758**. Later when the trough is mounted, one of the screws must be untwisted for fixing the bearing bolt.

Assembly step 5 lighting		
Qty.	No.	Assembly part
2	<b>20052</b>	Tapping screw $\phi$ 2,2 x 4,5
2	<b>21210</b>	Washer $\phi$ 2,2
2	<b>26902</b>	Raised cheese head screw M2 x 10
4	<b>26688</b>	Countersunk screw M2 x 8
6	<b>28360</b>	Light 5 Volt
2	<b>30756</b>	rear light
2	<b>30758</b>	Cover rear light
1	<b>30760</b>	Holder, body of a trough
1	<b>30844</b>	Holder, reverse light
1	<b>30846</b>	Below receiver, reverse light
2	<b>31020</b>	Rear light lens
2	<b>31022</b>	Reverse light body
2	<b>31068</b>	Indicator lens yellow
2	<b>31070</b>	Reflector
2	<b>31072</b>	Indicator body
2	<b>31116</b>	Reverse light lens



### 6. Mounting hind carriage Bow rear axle

The differential of the rear axle **31076** (with one axle access; pre-mounted) is equipped with 2 axle suspensions **30620**.

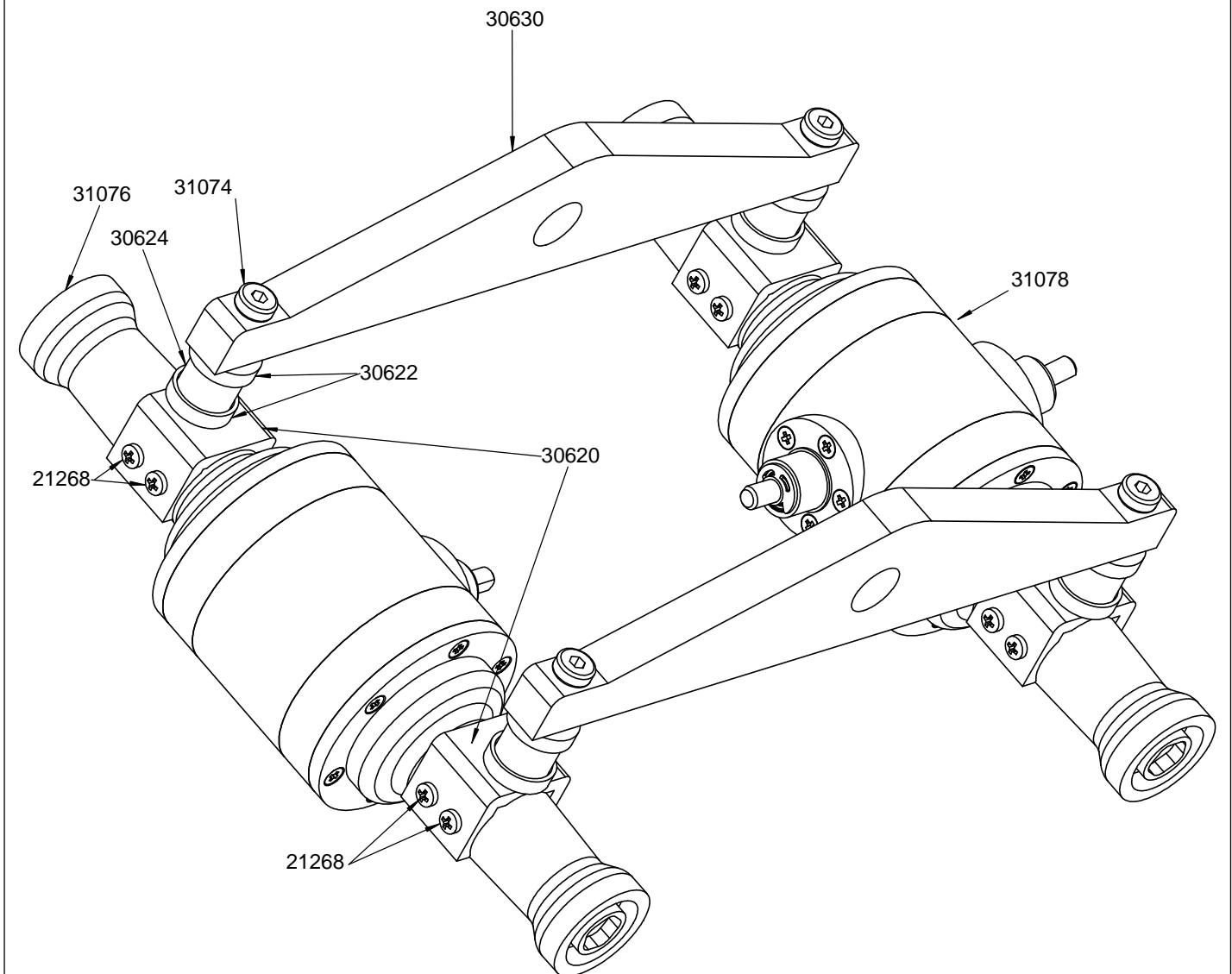
#### ATTENTION !

The single threads, M4 show to the outside.

The axle suspension is fixed with 2 raised cheese head screws M2x6 **21268** each opposite of the driving axle access. A rubber-bonded spring **30624** is fixed with a spring plate **30622** (external thread) to the axle suspension. Another spring plate **30622** is stuck to the rubber-bonded spring. A hexagon socket head cap screw **31074** M4x16 is fixed through the bore hole of the rear axle bow **30630** to the rubber-bonded spring.

During this operation the differential should be in a 90° angle to the rear axle bow. The second differential **31078** is mounted in the same way. During this operation the driving axle in front is turned abt. 15° upside. The rear driving axle access is in parallel position to the rear differential.

Assembly step 6 Bow rear axle		
Qty.	No.	Assembly part
8	<b>21268</b>	Raised cheese head screw M2 x 6
4	<b>30620</b>	Axle suspension
8	<b>30622</b>	Spring plate
2	<b>30630</b>	Hinterachsbügel
4	<b>30624</b>	Rubber-bonded spring
4	<b>31074</b>	Hexagon socket head cap screw M4 x 16
1	<b>31076</b>	Differential rear axle
1	<b>31078</b>	Differential rear axle 15°





### 7. Mounting hind carriage bearing lifting cylinder

One bearing of the lifting cylinder 30708 is put from outside through one profile hind carriage right 30802 and left 30804. A raised cheese head screw 20034 M3x10 and the junction piece for the hydraulic cylinder 30706 are put from outside through the frame and fixed from inside by a washer Ø3,2 and a stop nut 30568 M3. Tighten the stop nut as firmly as necessary to get a clearance free rotation.

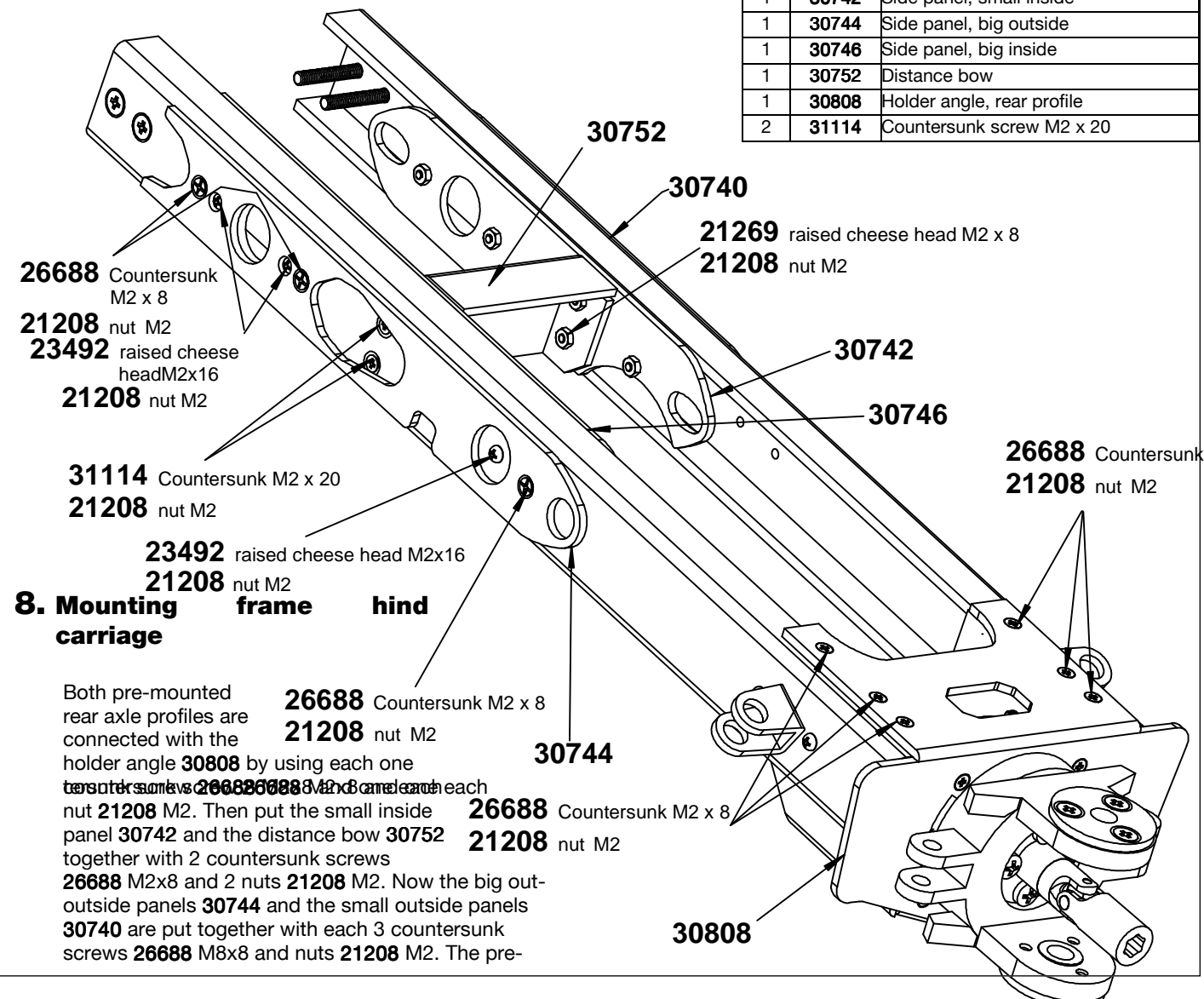


ing Hubzylinder Rahmen SLDF

mounted inner side panel is fixed with 3 raised cheese head screws 23492 M2x16 and 3 nuts 21208. The big inner side panel 30746 is also fixed with 3 raised cheese head screws 23492 M2x16 and 3 nuts 21208 M2. The distance bow is fixed with 2 countersunk screws 31114 M2x20 and 2 nuts 21208 M2.

Assembly step 7 Bearing bush lifting cylinder		
Qty.	No.	Assembly parts
2	20034	Countersunk M3 x 10
2	22900	Washer, big Ø 3,2
2	30568	Prevailing torque type hexagon nuts M3
2	30706	Receiver lifting cylinder
2	30708	Bearing bush lifting cylinder
1	30802	Profil hind carriage right
1	30804	Profil hind carriage left

Assembly step 8 Mounting frame hind carriage		
Qty.	No.	Assembly parts
10	20024	Raised cheese head screw M3 x 16
26	21208	Nut M2
18	26688	Countersunk screw M2 x 8
1	30740	Side panel, small outside
1	30742	Side panel, small inside
1	30744	Side panel, big outside
1	30746	Side panel, big inside
1	30752	Distance bow
1	30808	Holder angle, rear profile
2	31114	Countersunk screw M2 x 20

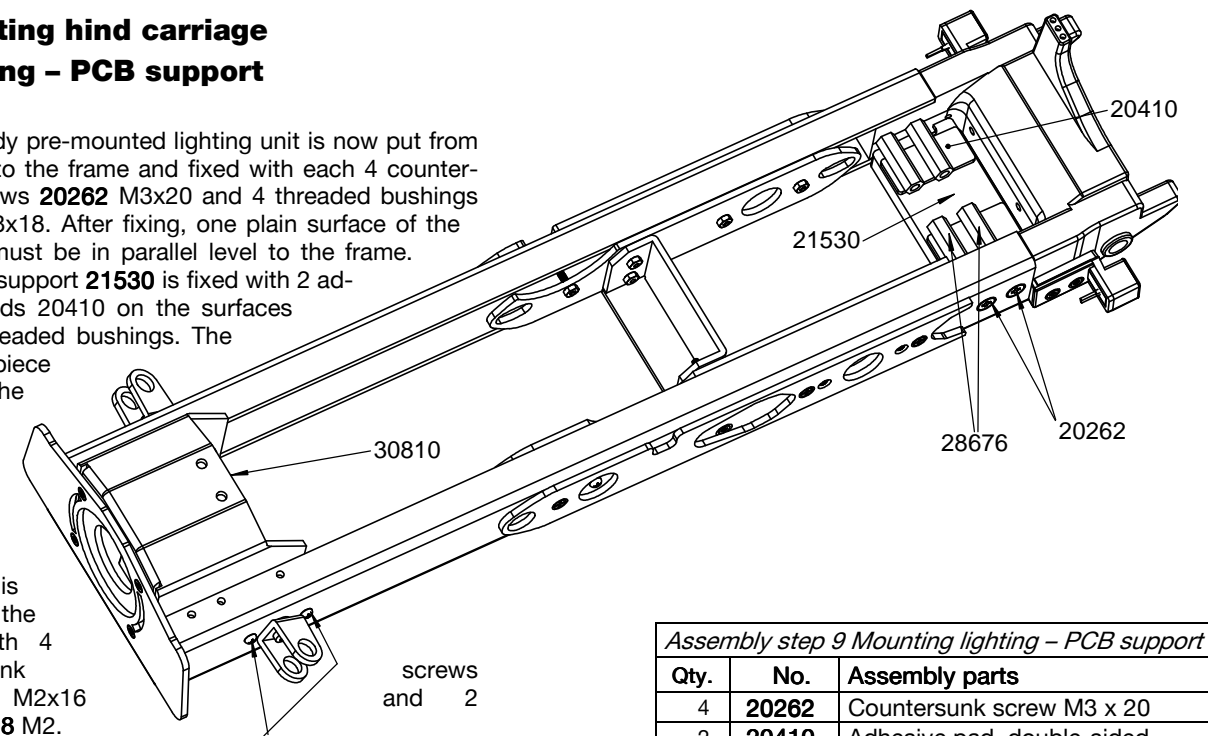


### 8. Mounting hind carriage frame

Both pre-mounted rear axle profiles are connected with the holder angle 30808 by using each one countersunk screw 26688 M2x8 and each nut 21208 M2. Then put the small inside panel 30742 and the distance bow 30752 together with 2 countersunk screws 26688 M2x8 and 2 nuts 21208 M2. Now the big outside panels 30744 and the small outside panels 30740 are put together with each 3 countersunk screws 26688 M2x8 and nuts 21208 M2. The pre-

### 9. Mounting hind carriage Lighting - PCB support

The already pre-mounted lighting unit is now put from behind into the frame and fixed with each 4 countersunk screws 20262 M3x20 and 4 threaded bushings 28676 M3x18. After fixing, one plain surface of the bushing must be in parallel level to the frame. The PCB support 21530 is fixed with 2 adhesive pads 20410 on the surfaces of the threaded bushings. The junction piece for the



triangle retainer 30810 is fixed into the frame with 4 countersunk screws 20262 M2x16 and 4 nuts 21208 M2.

When tightening the screws pay attention not to bend the tin-plate of the junction piece.

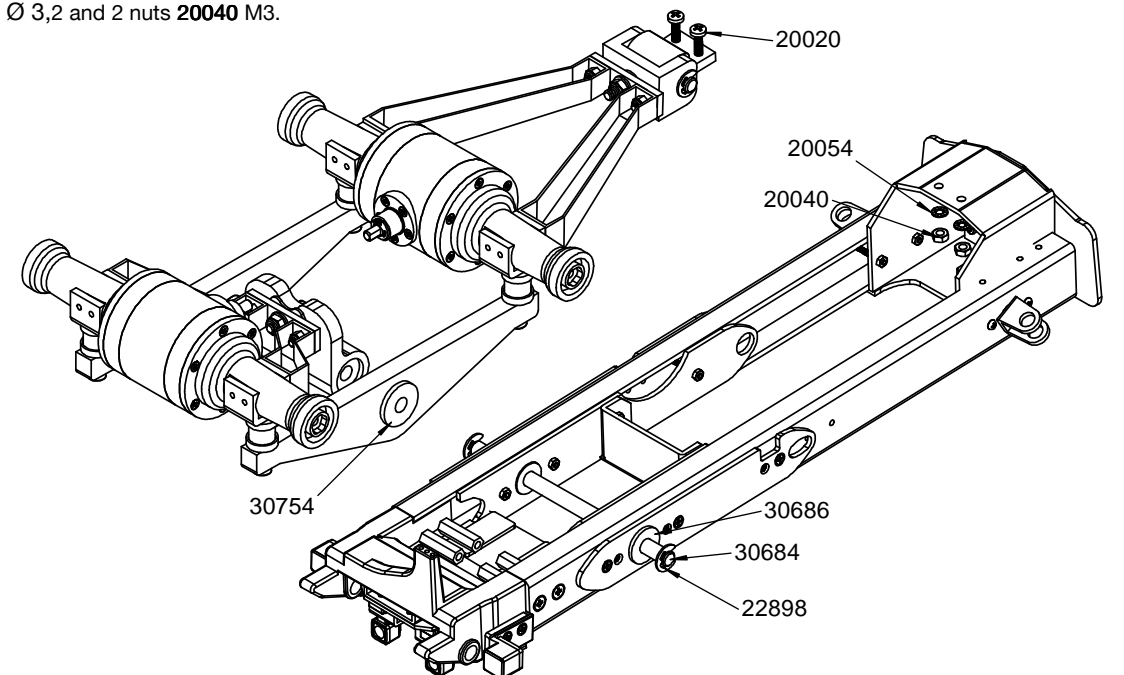
23492 Linsen M2 x 16  
21208 Mutter M2

screws and 2 not to

Assembly step 9 Mounting lighting - PCB support		
Qty.	No.	Assembly parts
4	20262	Countersunk screw M3 x 20
2	20410	Adhesive pad, double-sided
4	21208	Nut M2
1	21530	PCB support small
4	23492	Raised cheese head screw M2 x 16
4	28676	Threaded bushing M3 x 18
1	30810	Receiver, retainer triangle

### 10. Mounting hind carriage drive - frame

Put the rear drive into the frame. Stick the two bronze coloured guide bushes 30686 through the hind frame on to the junction piece for the triangle retainer 30810. The two bronze coloured bearing steering triangles 30754 are put into the triangle bows.. Now the axle of the steering triangle 30684 is stuck through all guide holes, and is protected with a retaining washer 22898 5,0. The triangle retainer in front is fixed with 2 raised cheese head screws 23496 M3 x 10, 2 serrate washers 20054 Ø 3,2 and 2 nuts 20040 M3.



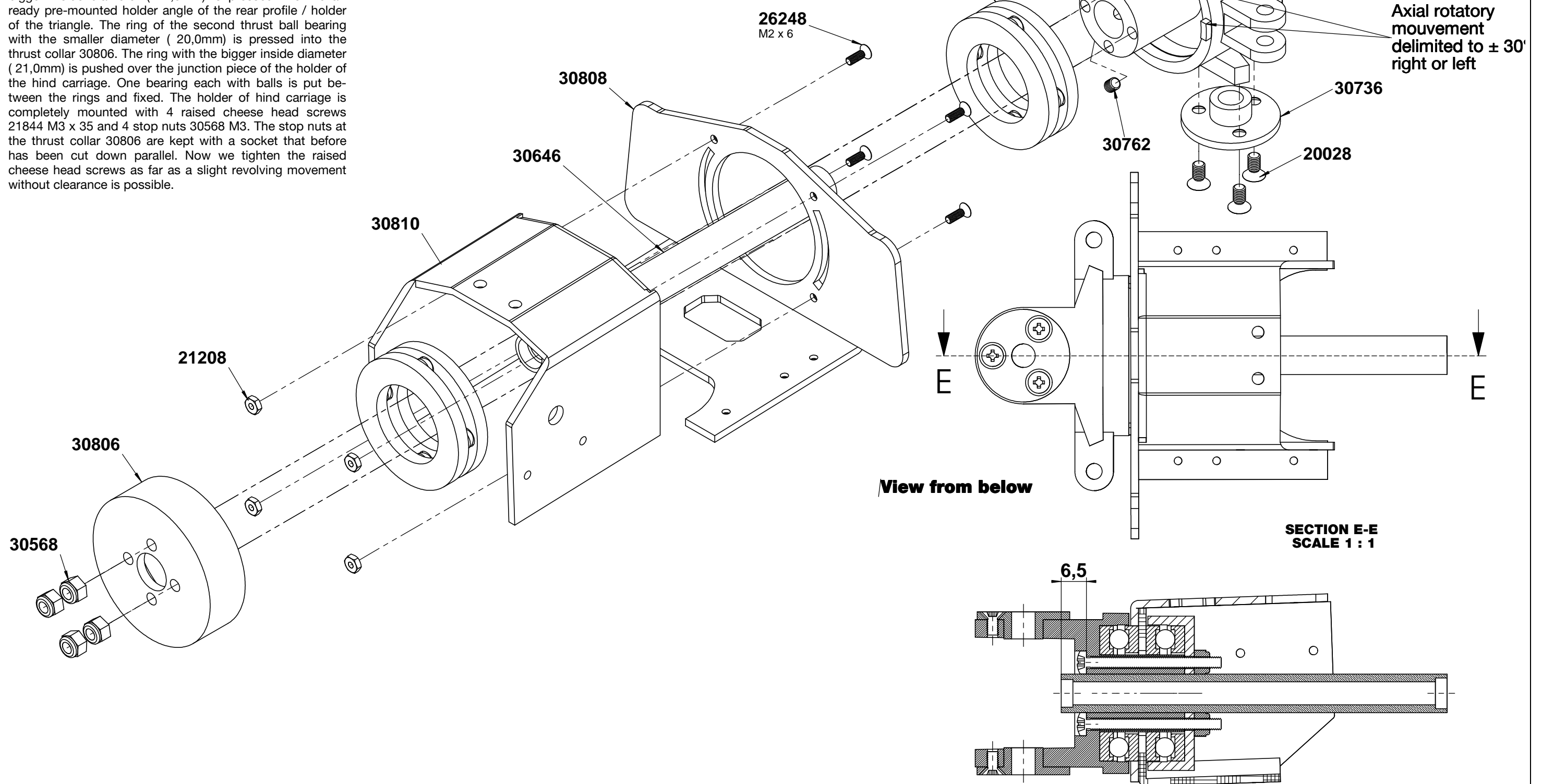
Assembly step 10 Mounting drive - frame		
Qty.	No.	Assembly parts
2	20020	Raised cheese head screw M3 x 10
2	20040	Nut M3
2	20054	Serrated washer 3,2
2	22898	Retaining washer for shafts 5
1	30684	Axle, steering triangle right
2	30686	Guide bush
2	30754	Bearing steering triangles

# 11. Mounting hind carriage

## Turning knuckle

First the conductor of a bore hole 30646 is mounted and fixed with a threaded pin 30762 M3x3. One end of abt. 4 mm must protrude from the holder of the hind carriage 30712 (see section E-E). Both bearings of the hind carriage 30736 are fixed with 3 countersunk screws 20028 M3 x 6 to the holder. The holder angle of the rear profile 30808 and that of the retainer triangle 30810 are put together and fixed with 4 countersunk screws 26248 M 2x 6 and nuts 21208 M2. Press the ring with the smaller inside diameter (20,0mm) of the thrust ball bearing 31112 35 x 20 x 10 into the holder of the hind carriage. The ring with the bigger inside diameter ( 21,0mm) is pressed into the already pre-mounted holder angle of the rear profile / holder of the triangle. The ring of the second thrust ball bearing with the smaller diameter ( 20,0mm) is pressed into the thrust collar 30806. The ring with the bigger inside diameter ( 21,0mm) is pushed over the junction piece of the holder of the hind carriage. One bearing each with balls is put between the rings and fixed. The holder of hind carriage is completely mounted with 4 raised cheese head screws 21844 M3 x 35 and 4 stop nuts 30568 M3. The stop nuts at the thrust collar 30806 are kept with a socket that before has been cut down parallel. Now we tighten the raised cheese head screws as far as a slight revolving movement without clearance is possible.

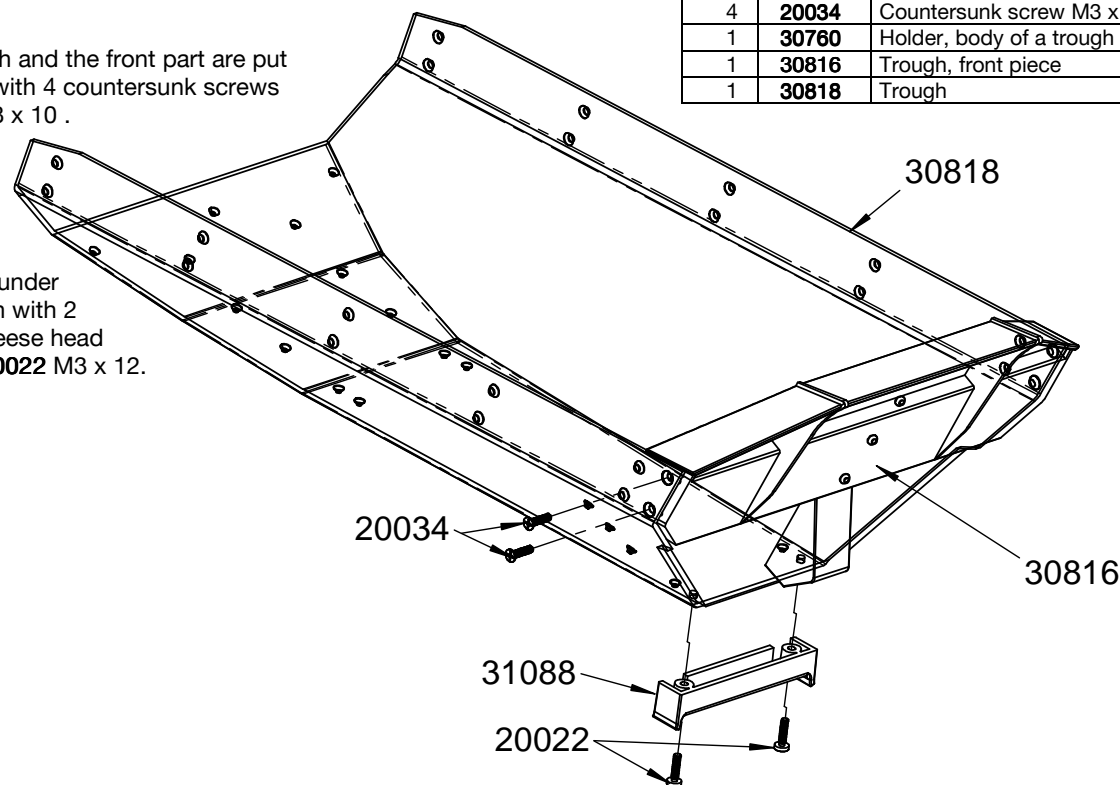
Assembly step 11 turning knuckle		
Qty.	No	Assembly parts
6	20028	Countersunk screw M3 x 6
4	21208	Nut M2
4	26248	Countersunk screw M2 x 6
4	30568	Prevailing torque type hexagon nuts M3
1	30646	Conductor of a bore hole
1	30712	Holder hind carriage
2	30736	Bearing hind carriage
1	30762	Threaded pin M3 x 3
1	30806	Thrust collar
1	30808	Holder angle, rear profile
1	30810	Holder, retainer triangle
2	31112	Thrust ball bearing 20-35-10 (51104)
4	31502	Hexagon socket head cap screw M3x35



### 12. Mounting hind carriage Trough

The trough and the front part are put together with 4 countersunk screws 20034 M3 x 10 .

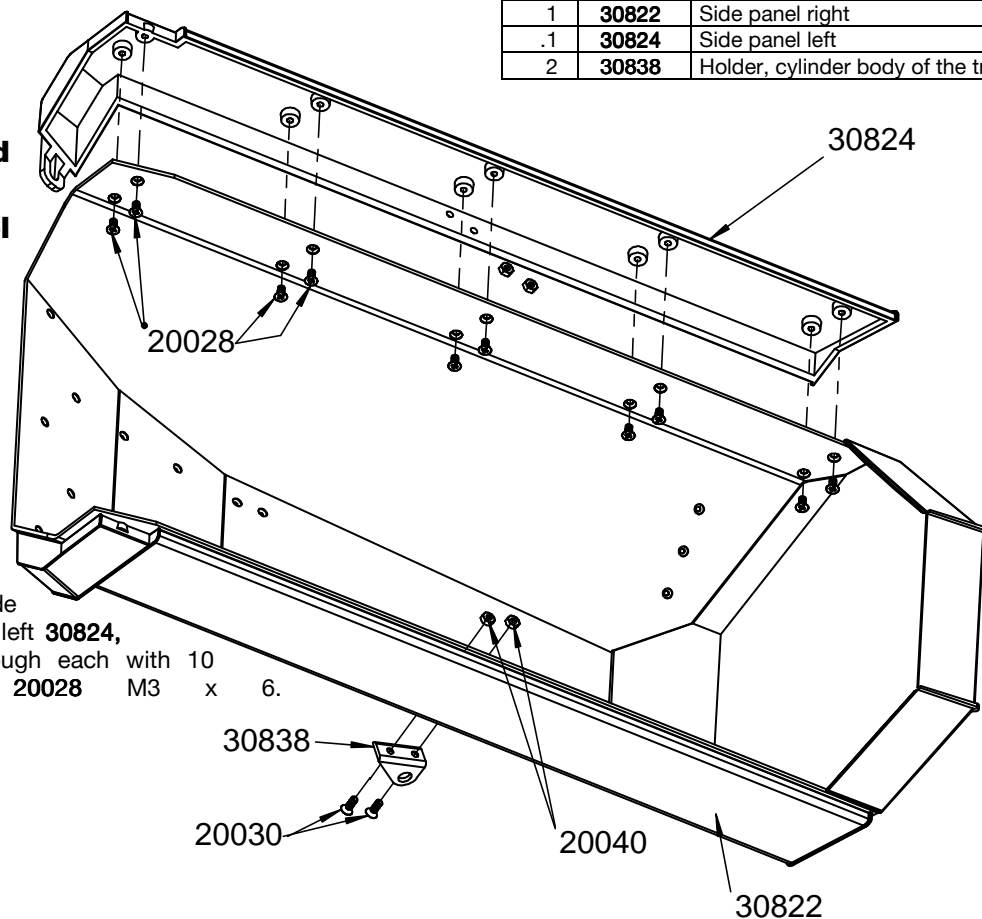
The holder of the trough 30760 is mounted under the trough with 2 raised cheese head screws 20022 M3 x 12.



Assembly step 12 Trough		
Qty.	No	Assembly part
2	20022	Raised cheese head screw M3 x 12
4	20034	Countersunk screw M3 x 10
1	30760	Holder, body of a trough
1	30816	Trough, front piece
1	30818	Trough

### 13. Mounting hind carriage Trough side panel

We start with mounting the two holders of the cylinder body 30838, the inclined side showing to the rear, and fix them with each 2 countersunk screws 20030 M3 x 8 and 2 nuts 20040 M3. Tighten the screws and fix them with a drop of glue (nail varnish) when screwing in... The two side panels, right 30822, and left 30824, are tightened to the trough each with 10 countersunk screws 20028 M3 x 6.



Assembly step 13 Trough side panel		
Qty.	No	Assembly part
20	20028	Countersunk screw M3 x 6
4	20030	Countersunk screw M3 x 8
4	20040	Nut M3
1	30822	Side panel right
1	30824	Side panel left
2	30838	Holder, cylinder body of the trough

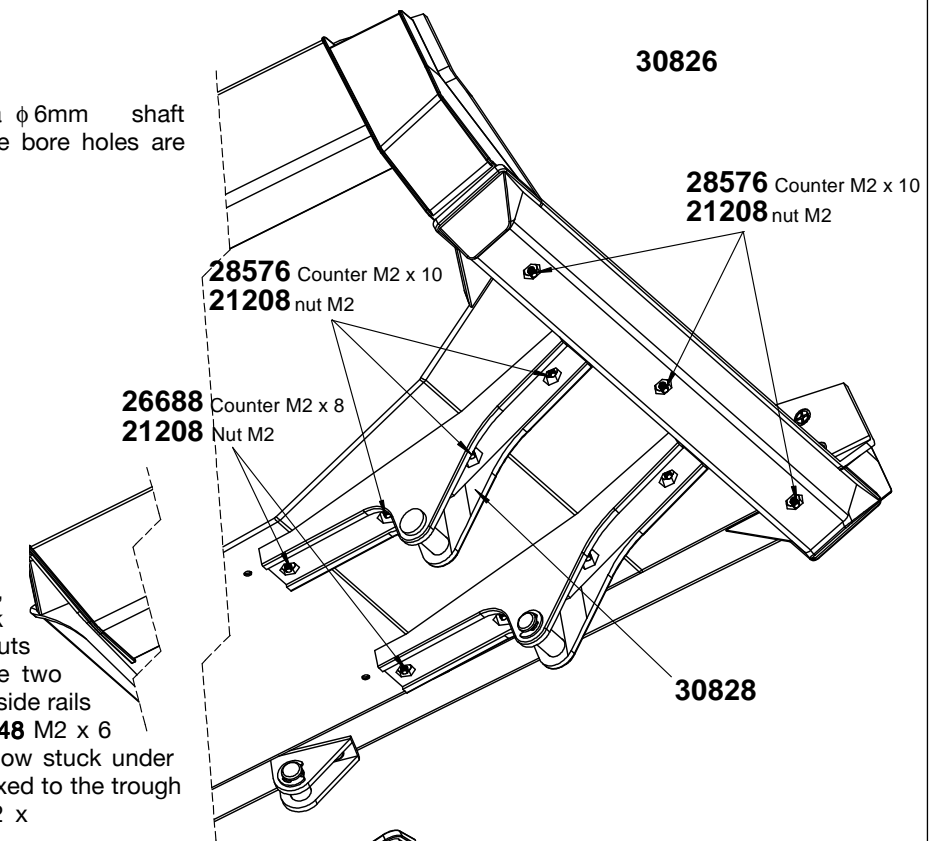
### 14. Mounting hind carriage Seat

The rear panel is fixed to the trough with 3 countersunk screws 28576 M2 x 10. Fix the two holder bows 30828 with each 3 countersunk screws 28576 M2 x 10, one countersunk screw 26688 M2 x 8 and each 4 nuts 21208 M2...

#### ATTENTION!

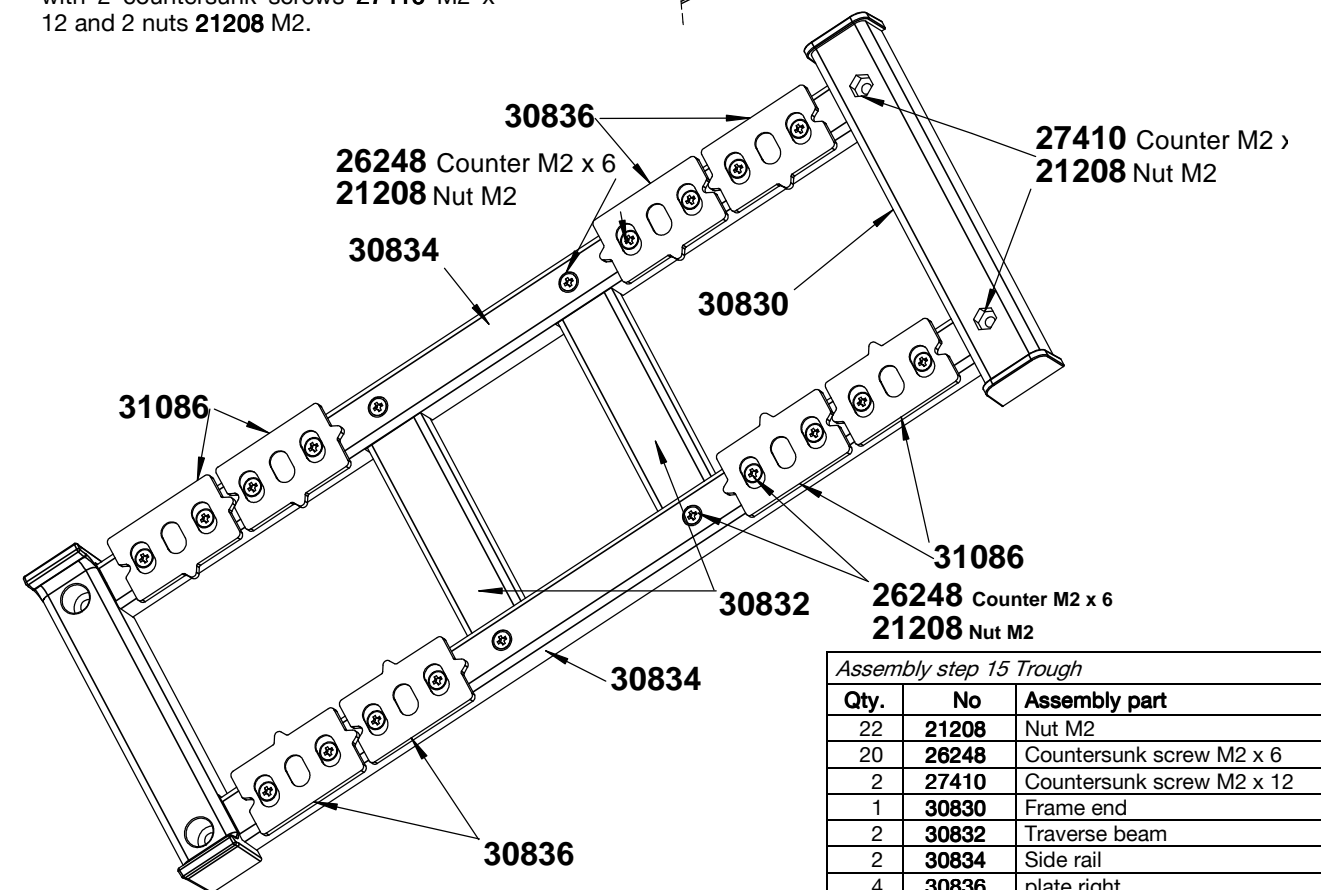
Before tightening the screws put a  $\phi 6$ mm shaft through the two holders, so that the bore holes are aligned.

Assembly step 14 Trough		
Qty.	No	Assembly part
11	21208	Nut M2
2	26688	Countersunk screw M2 x 8
9	28576	Countersunk screw M2 x 10
1	30826	Cover strip rear
2	30828	Holder bow
2	30838	Holder, cylinder body of the trough



### 15. Mounting hind carriage Trough plate

The plates, right 30836, and 31086 left, are fixed each with 2 countersunk screws 26248 M2 x 6 and each 2 nuts 21208 M2 as shown in the plan. The two traverse beams 30832 are fixed to the side rails 30834 with 2 countersunk screws 26248 M2 x 6 and 2 nuts 21208 M2. The frame is now stuck under the trough into the trough holder and fixed to the trough with 2 countersunk screws 27410 M2 x 12 and 2 nuts 21208 M2.



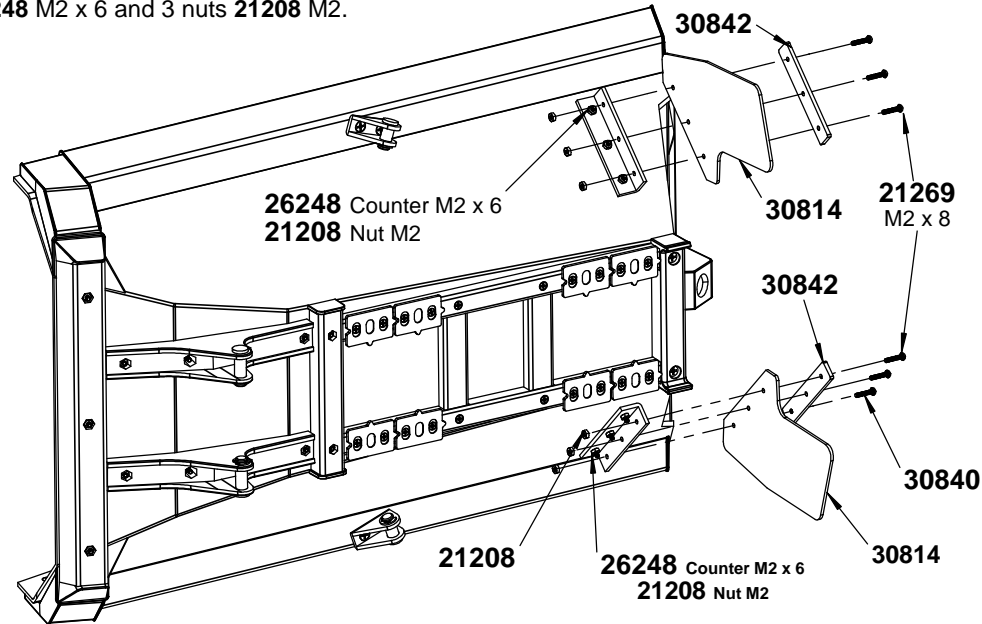
Assembly step 15 Trough		
Qty.	No	Assembly part
22	21208	Nut M2
20	26248	Countersunk screw M2 x 6
2	27410	Countersunk screw M2 x 12
1	30830	Frame end
2	30832	Traverse beam
2	30834	Side rail
4	30836	plate right
4	31086	plate left



### 16. Mounting hind carriage Mud flap

Terminal strip **30842**, mud flap **30814** and angle holder **30840** are fixed each with 3 raised cheese head screws **21269** M2 x 8 and nuts **21208** M2. You can screw in the raised cheese head screws also from the other side, i.e. turned by 180°. You will get one each right and left mud flap. These are tightened to the trough each with 3 countersunk screws **26248** M2 x 6 and 3 nuts **21208** M2.

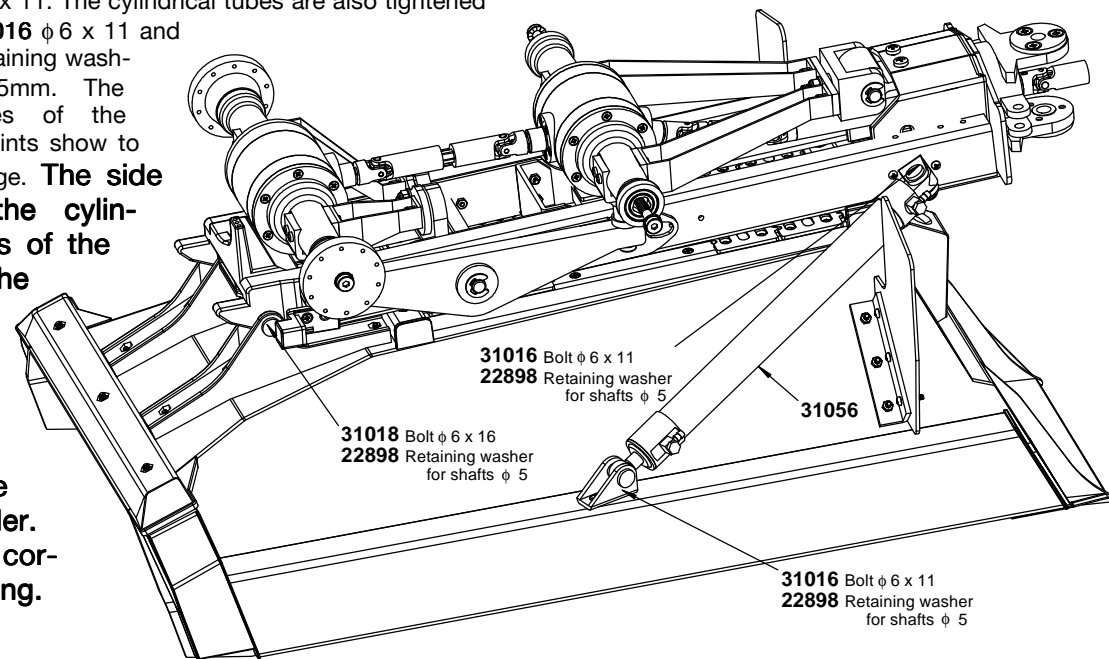
Assembly step 16 Mud flap		
Qty.	No	Assembly part
12	21208	Nut M2
6	21269	Raised cheese head screw M2 x 8
6	26248	Countersunk screw M2 x 6
2	30814	Mud flap, body of a trough
2	30840	Angle holder, mud flap
2	30842	Terminal strip, mud flap



### 17. Mounting hind carriage Trough - Lifting-cylinder

Now put the pre-mounted trough into the trough holder at the hind carriage, and tighten it with 2 bolts **31018**  $\phi 6 \times 16$ . Should the bolts not fit through the bore holes, remove the remaining colour. The bolts are tightened with 2 retaining washers **22898**  $\phi 5$ mm. The two lifting cylinders **31056** are fixed to the trough with the piston rod and tightened with 2 bolts **31016**  $\phi 6 \times 11$ . The cylindrical tubes are also tightened with 2 bolts **31016**  $\phi 6 \times 11$  and fixed with 4 retaining washers **22898**  $\phi 5$ mm. The junction nipples of the angled screw joints show to the front carriage. **The side pieces of the cylindrical holders of the body of the trough must be in parallel position to the eye of the lifting cylinder. If necessary correct by bending.**

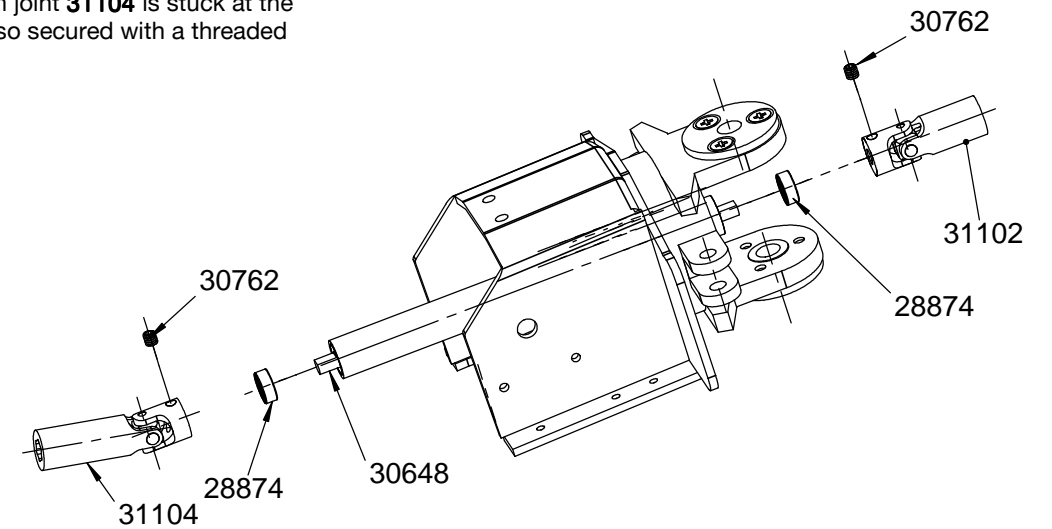
Assembly step 17 Trough - cylinder		
Qty.	No	Assembly part
6	22898	Retaining washer for shafts $\phi 5$ mm
4	31016	Bolt $\phi 6 \times 11$ (Cylinder)
2	31018	Bolt $\phi 6 \times 16$ (Trough-frame)
2	31056	Lifting cylinder, with screw fitting



### 18. Mounting hind carriage Cardan joint - turning knuckle

Put the dump-bell shaft **30648** into the already mounted guide shaft. Put the two all bearings **28874**  $\phi 8 \times \phi 4 \times 3$  into the guide shaft. At the pivot the inside hexagonal cardan joint **31102** is stuck to the dump-bell shaft **30648** and secured with a threaded pin **30762**. The inside hexagonal cardan joint **31104** is stuck at the other side and also secured with a threaded pin.

Assembly step 18 Cardan joint - turning knuckle		
Qty.	No	Assembly part
2	28874	Ball bearing 8 x 4 x 3 ZZ
1	30648	Dump-bell shaft
2	30762	Threaded pin M3 x 3
1	31102	Cardan joint hexagon inside
1	31104	Cardan joint hexagon inside



### 19. Mounting hind carriage Cardan joint - Differential rear

Assemble the cardan joints **31104** - **31106** - **31108** as per the plan. The threaded pins M3 x 3 touch the sides of the joints' ends.

Assembly step 19 Cardan joint - Diff. rear		
Qty.	No	Assembly part
1	30108	Cardan joint hexagon outside NL = 22,5mm
A 3	30762	Threaded pin M3 x 3
1	31104	Cardan joint hexagon inside NL = 27,5mm
1	31106	Cardan joint hexagon outside NL = 10 mm

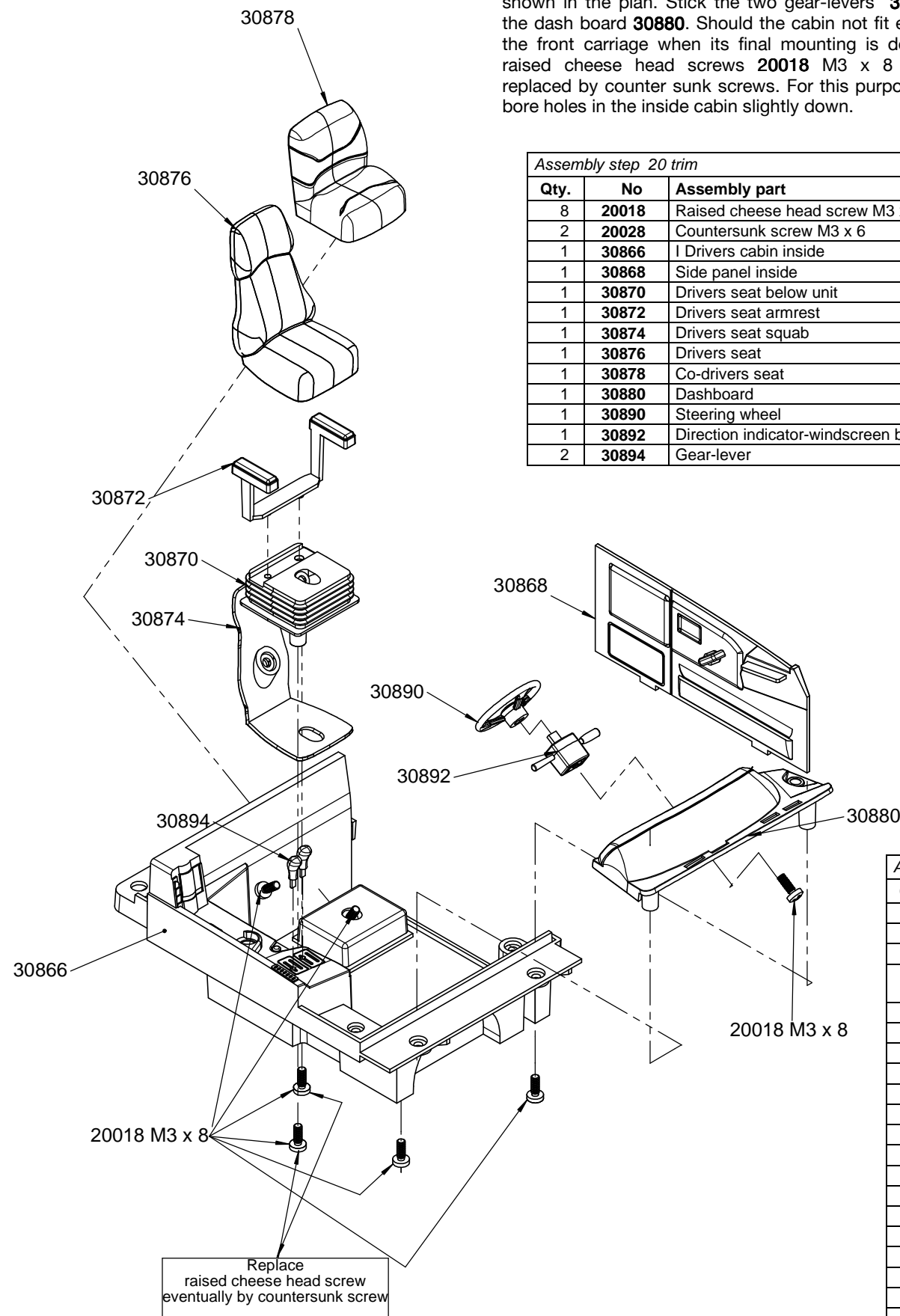
Hinterachsrahmen mit Cardan.SLD

## 20. Mounting Cabin Trim

Put the single assembly parts together and screw them as shown in the plan. Stick the two gear-levers **30894** into the dash board **30880**. Should the cabin not fit exactly on the front carriage when its final mounting is done, both raised cheese head screws **20018** M3 x 8 must be replaced by counter sunk screws. For this purpose let the bore holes in the inside cabin slightly down.

Assembly step 20 trim

Qty.	No	Assembly part
8	20018	Raised cheese head screw M3 x 8
2	20028	Countersunk screw M3 x 6
1	30866	I Drivers cabin inside
1	30868	Side panel inside
1	30870	Drivers seat below unit
1	30872	Drivers seat armrest
1	30874	Drivers seat squab
1	30876	Drivers seat
1	30878	Co-drivers seat
1	30880	Dashboard
1	30890	Steering wheel
1	30892	Direction indicator-windscreen box
2	30894	Gear-lever



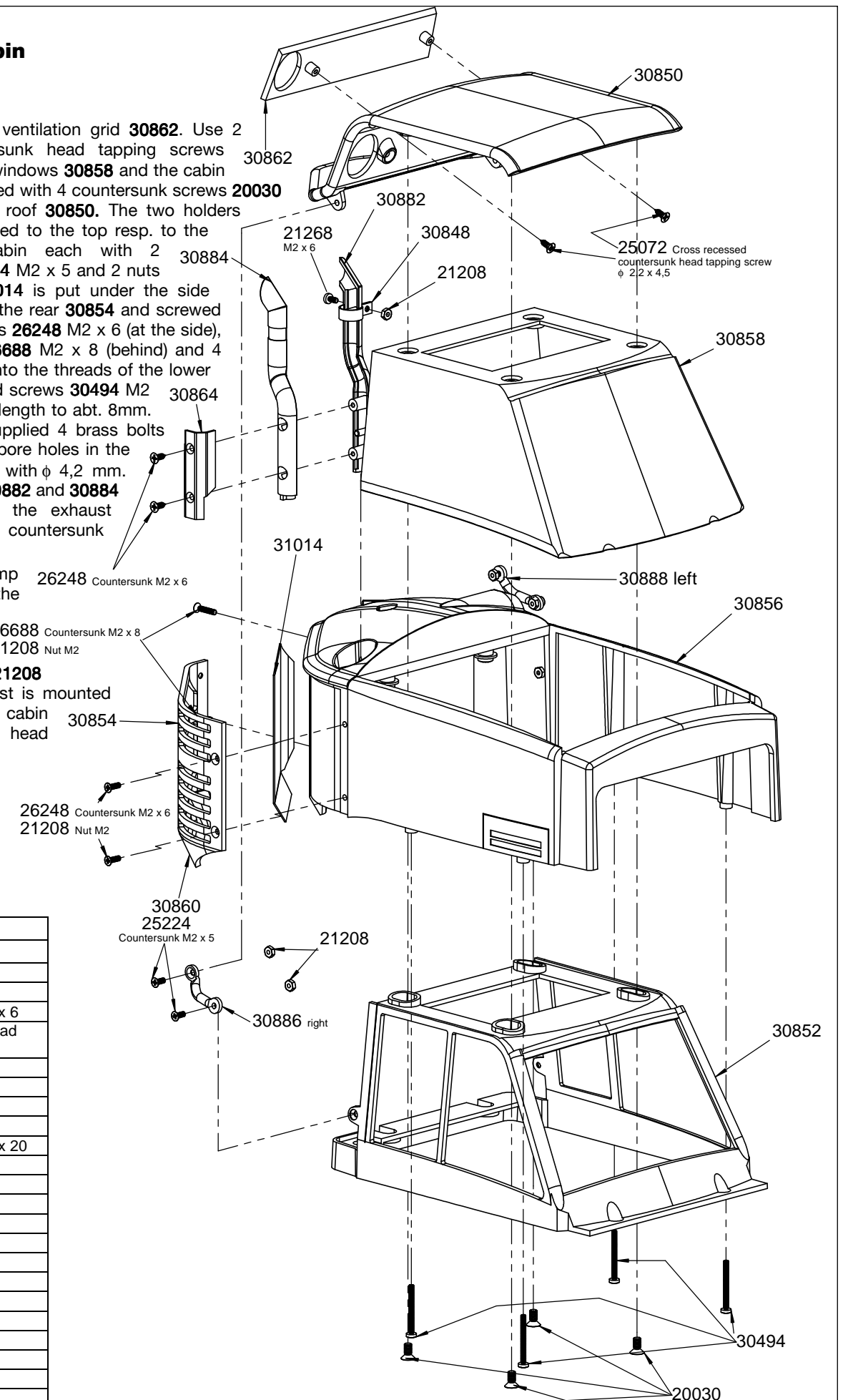
## 21. Mounting Cabin Construction

Start with mounting the ventilation grid **30862**. Use 2 cross recessed countersunk head tapping screws **25072**  $\phi$  2,2, x 4,5. The windows **30858** and the cabin top **30852** are screwed with 4 countersunk screws **20030** M3 x 8 under the cabin roof **30850**. The two holders **30886** und **30888** are fixed to the top resp. to the upper part of the cabin each with 2 countersunk screws **25224** M2 x 5 and 2 nuts **21208** M2. The grid **31014** is put under the side panel at the right side in the rear **30854** and screwed with 2 countersunk screws **26248** M2 x 6 (at the side), 2 countersunk screws **26688** M2 x 8 (behind) and 4 nuts **21208** M2. Screw into the threads of the lower part 4 raised cheese head screws **30494** M2 x 20. Cut the exceeding length to abt. 8mm. You can also use the supplied 4 brass bolts **27412**. In that case the bore holes in the frame must be prepared with  $\phi$  4,2 mm. The two exhaust halves **30882** and **30884** are fixed together with the exhaust panel **30864** with 2 countersunk screws **26248** M2 x 6.

The exhaust manifold clamp **26248** Countersunk M2 x 6 **30848** is pushed over the exhaust parts and fixed with a raised **26688** Countersunk M2 x 8 cheese head screw **21208** Nut M2 **21268** M2 x 6 and a nut **21208** M2. The complete exhaust is mounted to the lower part of the cabin with a raised cheese head screw **21268** M2 x 6

Assembly step 21 Construction

Qty.	No	Assembly part
4	20030	Countersunk screw M3 x 8
13	21208	Nut M2
2	21268	Raised cheese head screw M2 x 6
2	25072	Cross recessed countersunk head tapping screw 2,2 x 4,5
4	25224	Countersunk screw M2 x 5
8	26248	Countersunk screw M2 x 6
2	26688	Countersunk screw M2 x 8
4	27412	Bolt with thread, brass M2
4	30494	Raised cheese head screw M2 x 20
1	30848	Exhaust manifold clamp
1	30850	Drivers cabin roof
1	30852	Drivers cabin top unit
1	30854	Side panel rear right
1	30856	Drivers cabin below unit
1	30858	Windows
1	30860	Side panel rear left
1	30862	Ventilation grid
1	30864	Exhaust panel
1	30882	Exhaust half, right
1	30884	Exhaust half, left
1	30886	Holder roof, right
1	30888	Holder roof, left
1	31014	Trellis, engine



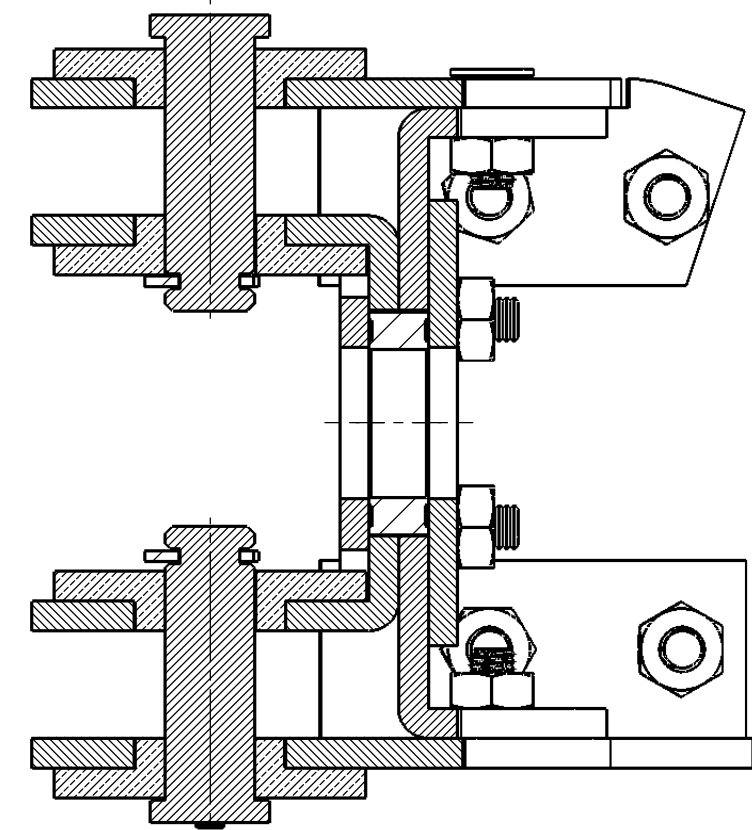
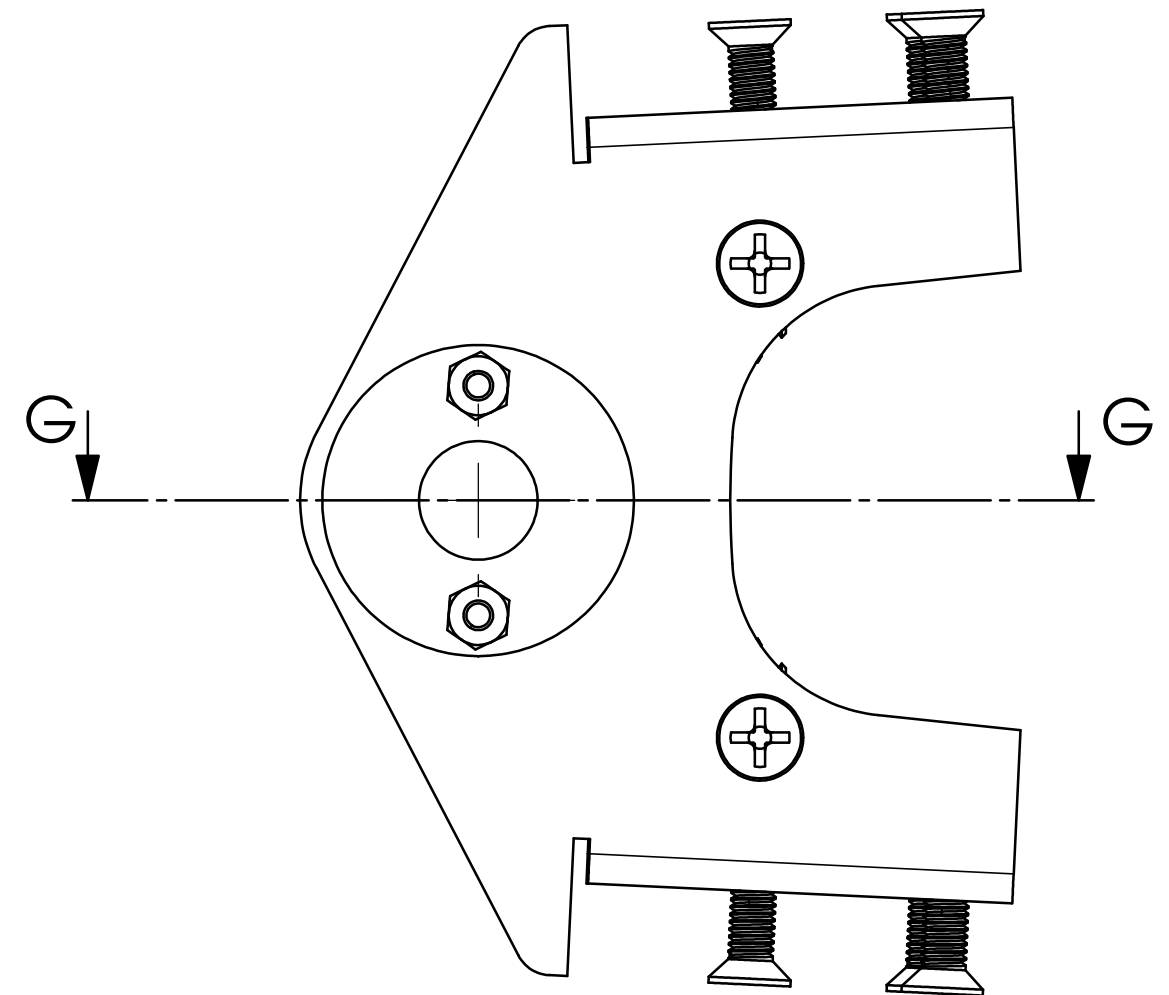
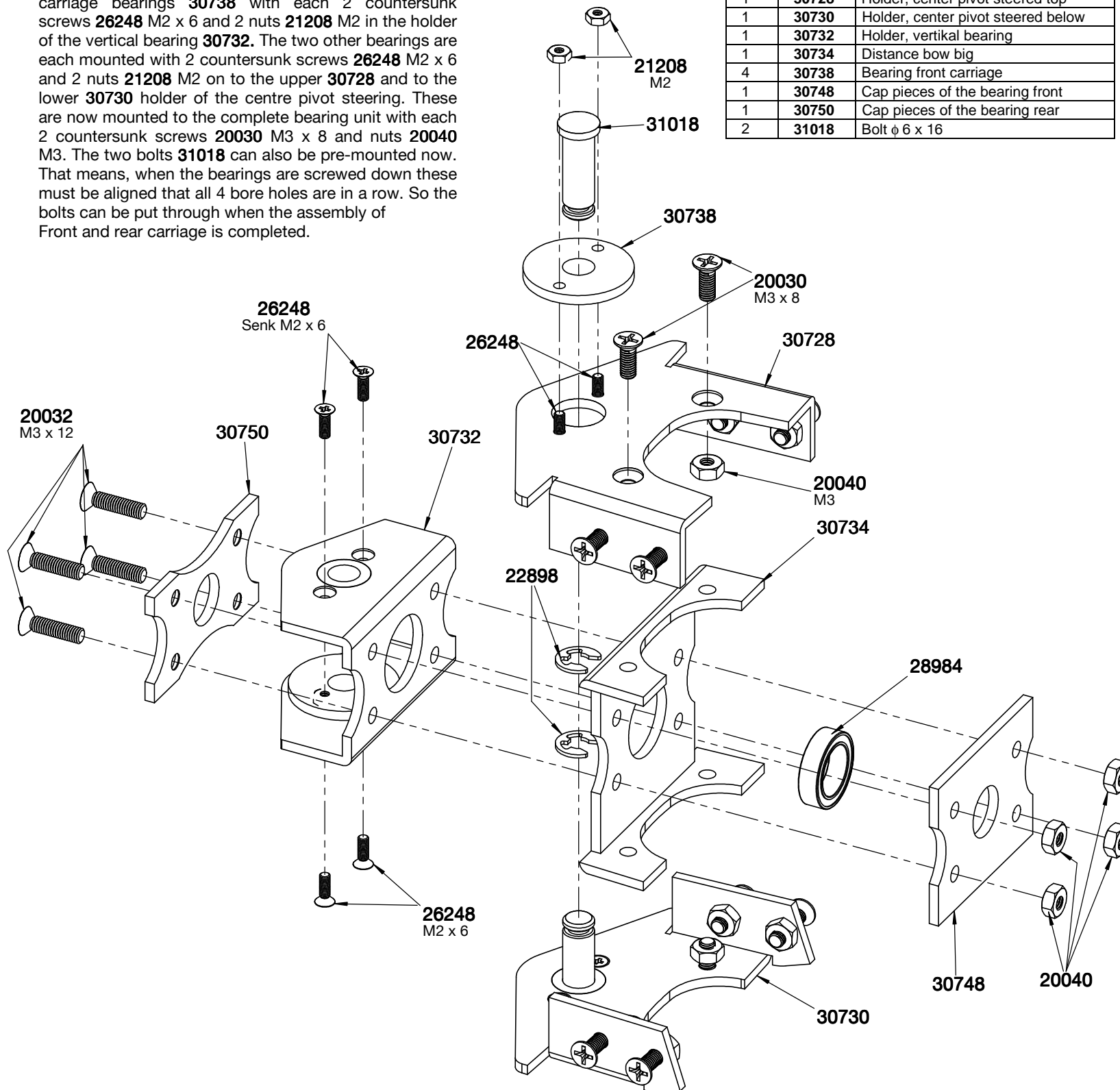
## 22. Mounting front carriage

### Turning knuckle

First the ball bearing **28984** is put between the big distance bow **30734** and the holder of the vertical bearing **30732**. The caps of the front bearing **30748** and the rear bearing **30750** keep the ball bearing in the right position. The complete unit is held with 4 countersunk screws **20032** M3 x 12 and 4 nuts **20040** M3. Now fix 2 front carriage bearings **30738** with each 2 countersunk screws **26248** M2 x 6 and 2 nuts **21208** M2 in the holder of the vertical bearing **30732**. The two other bearings are each mounted with 2 countersunk screws **26248** M2 x 6 and 2 nuts **21208** M2 on to the upper **30728** and to the lower **30730** holder of the centre pivot steering. These are now mounted to the complete bearing unit with each 2 countersunk screws **20030** M3 x 8 and nuts **20040** M3. The two bolts **31018** can also be pre-mounted now. That means, when the bearings are screwed down these must be aligned that all 4 bore holes are in a row. So the bolts can be put through when the assembly of Front and rear carriage is completed.

Assembly step 22 Turning knuckle

Qty.	No	Assembly part
4	20030	Countersunk screw M3 x 8
4	20032	Countersunk screw M3 x 12
8	20040	Nut M3
4	21208	Nut M2
2	22898	Retaining washer for shafts 5 φ 5
8	26248	Countersunk screw M2 x 6
1	28984	Ball bearing 15 x 10 x 4 ZZ
1	30728	Holder, center pivot steered top
1	30730	Holder, center pivot steered below
1	30732	Holder, vertical bearing
1	30734	Distance bow big
4	30738	Bearing front carriage
1	30748	Cap pieces of the bearing front
1	30750	Cap pieces of the bearing rear
2	31018	Bolt φ 6 x 16



SECTION G-G  
Scale 2 : 1



### 23. Mounting front carriage Frame

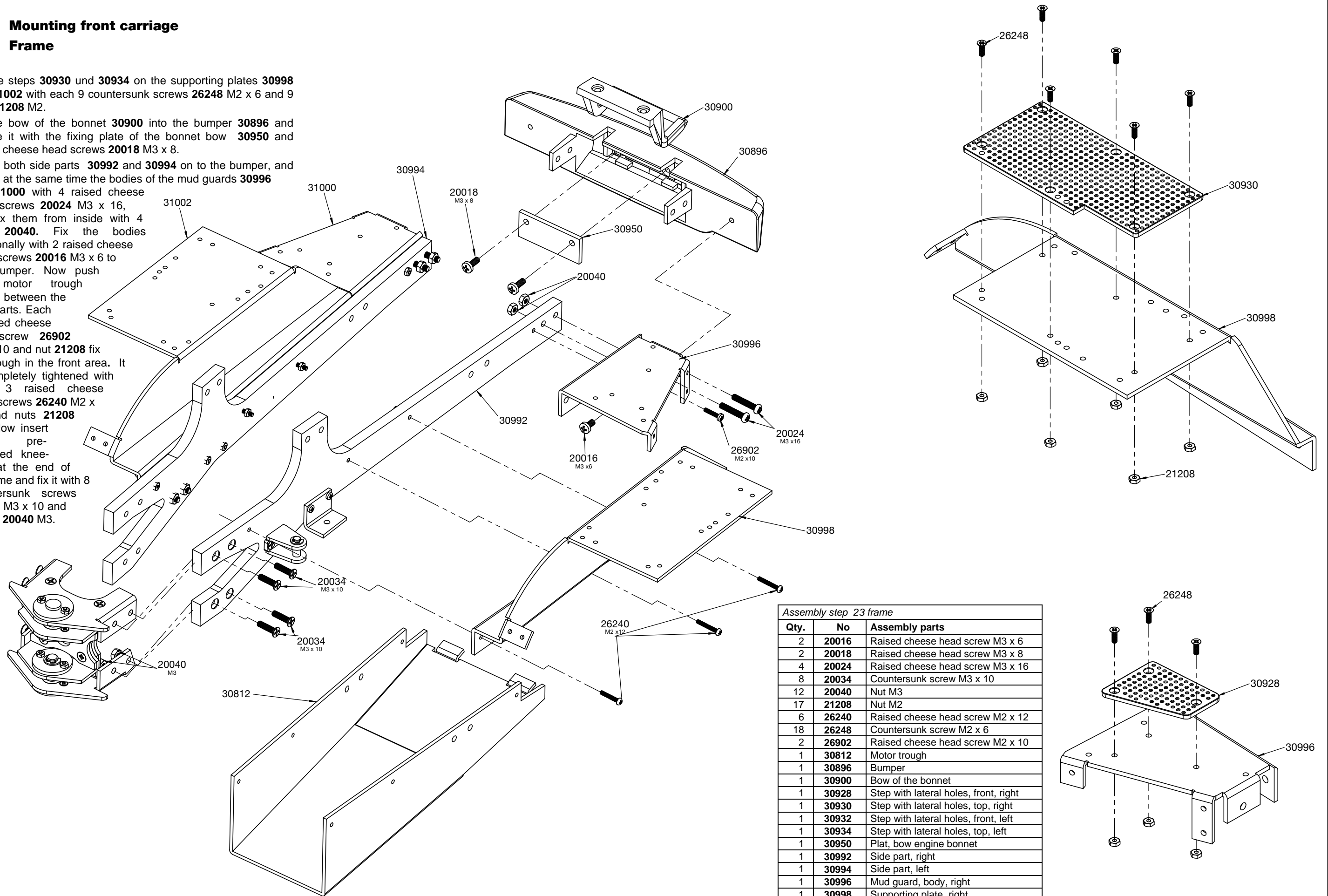
Fix the steps **30930** und **30934** on the supporting plates **30998** and **31002** with each 9 countersunk screws **26248** M2 x 6 and 9 nuts **21208** M2.

Fit the bow of the bonnet **30900** into the bumper **30896** and secure it with the fixing plate of the bonnet bow **30950** and raised cheese head screws **20018** M3 x 8.

Screw both side parts **30992** and **30994** on to the bumper, and mount at the same time the bodies of the mud guards **30996** and **31000** with 4 raised cheese

head screws **20024** M3 x 16, and fix them from inside with 4 nuts **20040**. Fix the bodies additionally with 2 raised cheese head screws **20016** M3 x 6 to the bumper. Now push the motor trough

**30812** between the side parts. Each 1 raised cheese head screw **26902** M2 x 10 and nut **21208** fix the trough in the front area. It is completely tightened with each 3 raised cheese head screws **26240** M2 x 12 and nuts **21208** M2. Now insert the pre-mounted knee-joint at the end of the frame and fix it with 8 countersunk screws **20034** M3 x 10 and 8 nuts **20040** M3.



Assembly step 23 frame		
Qty.	No	Assembly parts
2	20016	Raised cheese head screw M3 x 6
2	20018	Raised cheese head screw M3 x 8
4	20024	Raised cheese head screw M3 x 16
8	20034	Countersunk screw M3 x 10
12	20040	Nut M3
17	21208	Nut M2
6	26240	Raised cheese head screw M2 x 12
18	26248	Countersunk screw M2 x 6
2	26902	Raised cheese head screw M2 x 10
1	30812	Motor trough
1	30896	Bumper
1	30900	Bow of the bonnet
1	30928	Step with lateral holes, front, right
1	30930	Step with lateral holes, top, right
1	30932	Step with lateral holes, front, left
1	30934	Step with lateral holes, top, left
1	30950	Plat, bow engine bonnet
1	30992	Side part, right
1	30994	Side part, left
1	30996	Mud guard, body, right
1	30998	Supporting plate, right
1	31000	Mud guard, body, left
1	31002	Supporting plate, left

## 24. Mounting front carriage Gear - Motor - Servo

Tear the white pinion with 14 teeth off the engine shaft **30084** and put up the supplied 12 teeth pinion **27964** from brass, and fix it with the threaded pin **30762**. The engine shaft is in vertical position to the threaded pin. A suitable hexagon key is supplied, too. Put the cover plate **29496** on the backside of the gear box **30030** and then fasten the engine with 3 countersunk screws **28212** M3 x 35 to the gear.

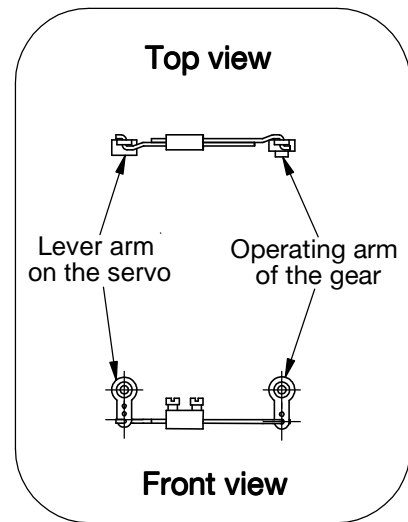
Before putting the servo lever on the servo, make sure with a servo tester that it is in middle position. The lever is put on and tightened.

### Advice!

Operate the gear change only in stop position.

The gear box has the following reductions:

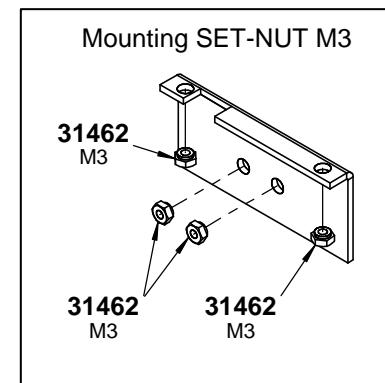
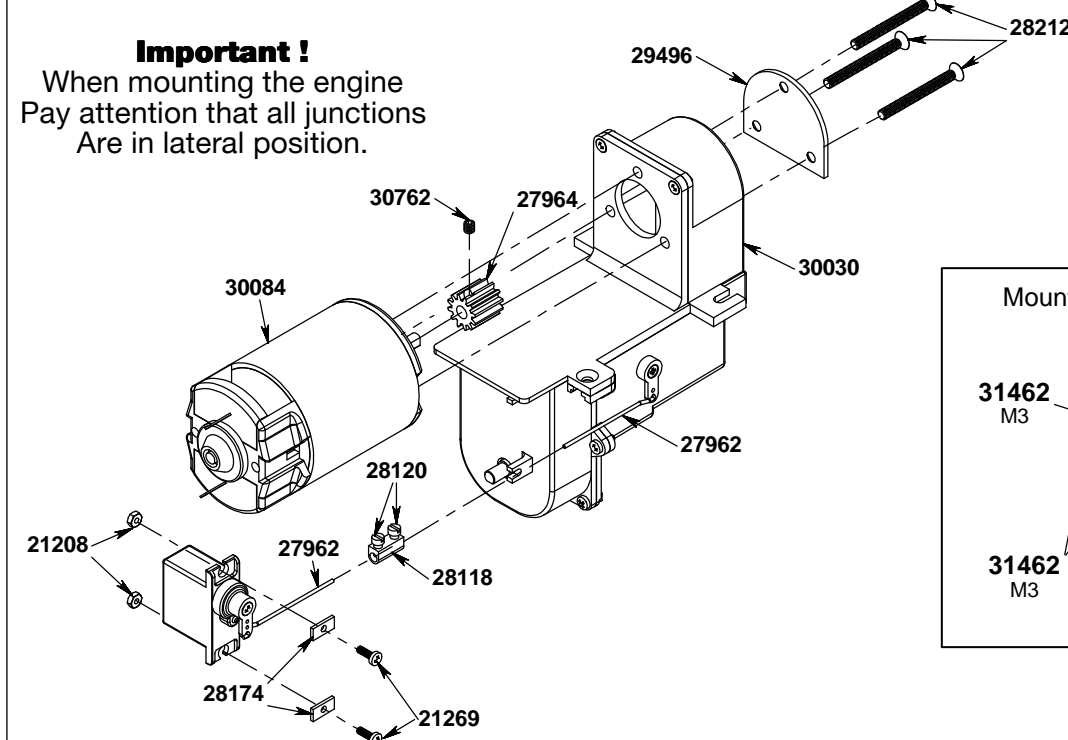
- 1. gear 12 : 1 (gear lever in front)
- 2. Gear 6 : 1 (gear lever in middle position)
- 3. gear 3 : 1 (gear lever in the rear)



Assembly step 24 Motor - Gear - Servo		
Qty.	No	Assembly part
2	21208	Nut M2
2	21269	Raised cheese head screw M2 x 8
3	28212	Countersunk screw M3 x 35
2	27962	Slid rod
1	27964	Motor pinion, brass, with 12 teeth
1	28118	Clamp for slide rod
2	28120	Pan head screw with cross recess M2,5 x 5
2	28174	U-plate 2
1	29496	Cover plate for gearbox
1	30030	All-wheel gearbox
1	30084	Bühler Motor incl. 14 teeth pinion
1	30762	Threaded pin M3 x 3

Assembly step 25 Drive assembly		
Qty.	No	Assembly part
2	20018	Raised cheese head screw M3 x 8
4	20024	Raised cheese head screw M3 x 16
2	20030	Countersunk screw M3 x 8
4	20032	Countersunk screw M3 x 12
2	20036	Hexagon head bolts M4 x 8
8	20040	Nut M3
2	20058	Retaining washer for shafts $\phi$ 3,2
4	21208	Nut M2
2	26650	Serrated washer $\phi$ 4,3
4	26902	Raised cheese head screw M2 x 10
2	30652	Bolt $\phi$ 4 x 11mm
1	30688	Holder, differential front right
1	30692	Holder, differential front left
1	30694	Holder, gear right
1	30696	Holder, gear left
2	30710	Holder, steering cylinder front
1	30762	Threaded pin M3 x 3
1	31080	Differential front axle
1	31104	Cardan joint hexagon inside NL = 27,5mm
1	31108	Cardan joint hexagon outside NL = 22,5mm
1	31462	Set nut M3

**Important !**  
When mounting the engine  
Pay attention that all junctions  
Are in lateral position.



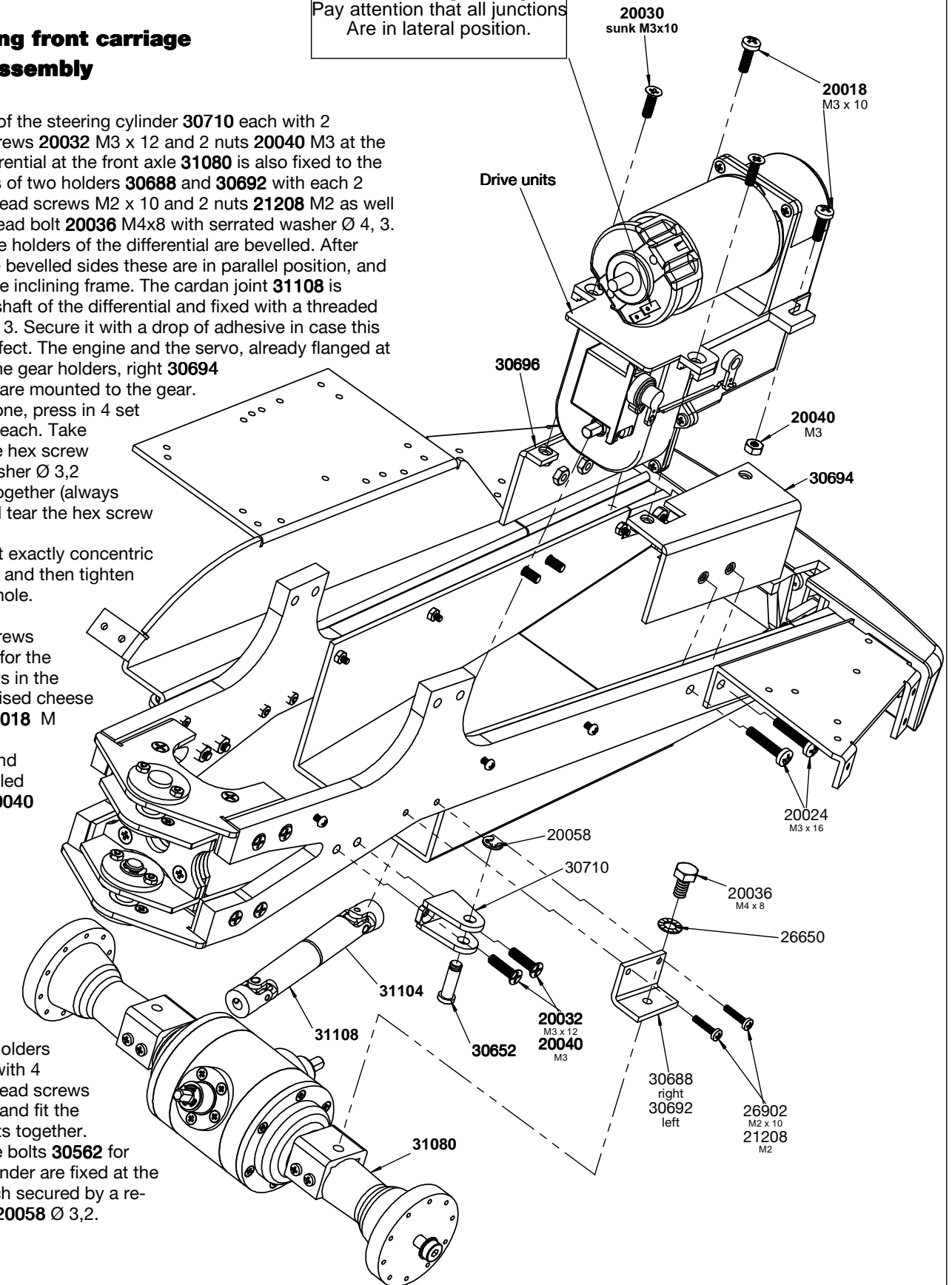
## 25. Mounting front carriage Drive assembly

Fix the holders of the steering cylinder **30710** each with 2 countersunk screws **20032** M3 x 12 and 2 nuts **20040** M3 at the frame. The differential at the front axle **31080** is also fixed to the frame by means of two holders **30688** and **30692** with each 2 raised cheese head screws M2 x 10 and 2 nuts **21208** M2 as well as 1 hexagon head bolt **20036** M4x8 with serrated washer  $\phi$  4, 3. Please note: The holders of the differential are bevelled. After screwing on the bevelled sides these are in parallel position, and thus equalize the inclining frame. The cardan joint **31108** is pushed on the shaft of the differential and fixed with a threaded pin **30762** M3 x 3. Secure it with a drop of adhesive in case this mounting is perfect. The engine and the servo, already flanged at the gear, now the gear holders, right **30694** and left **30696**, are mounted to the gear. Before this is done, press in 4 set nuts **31462** M3 each. Take one set nut, one hex screw M3 and one washer  $\phi$  3,2 and put these together (always from inside) and tear the hex screw slowly.

Align the set nut exactly concentric to the bore hole and then tighten it into the bore hole.

Now take two countersunk screws **20030** M3 x 10 for the provided hollows in the gear and two raised cheese head screws **20018** M3 x 10. The gap between gear and gear holder is filled up with a nut **20040** M3. The cardan joint **31104** is pushed on the end of the gear shaft and also secured with a threaded pin. Now insert the complete unit into the front carriage and screw the holders with the frame with 4 raised cheese head screws **20024** M3 x 16 and fit the two cardan joints together. Already now the bolts **30562** for the steering cylinder are fixed at the holders and each secured by a retaining washer **20058**  $\phi$  3,2.

**Important !**  
When mounting the engine  
Pay attention that all junctions  
Are in lateral position.



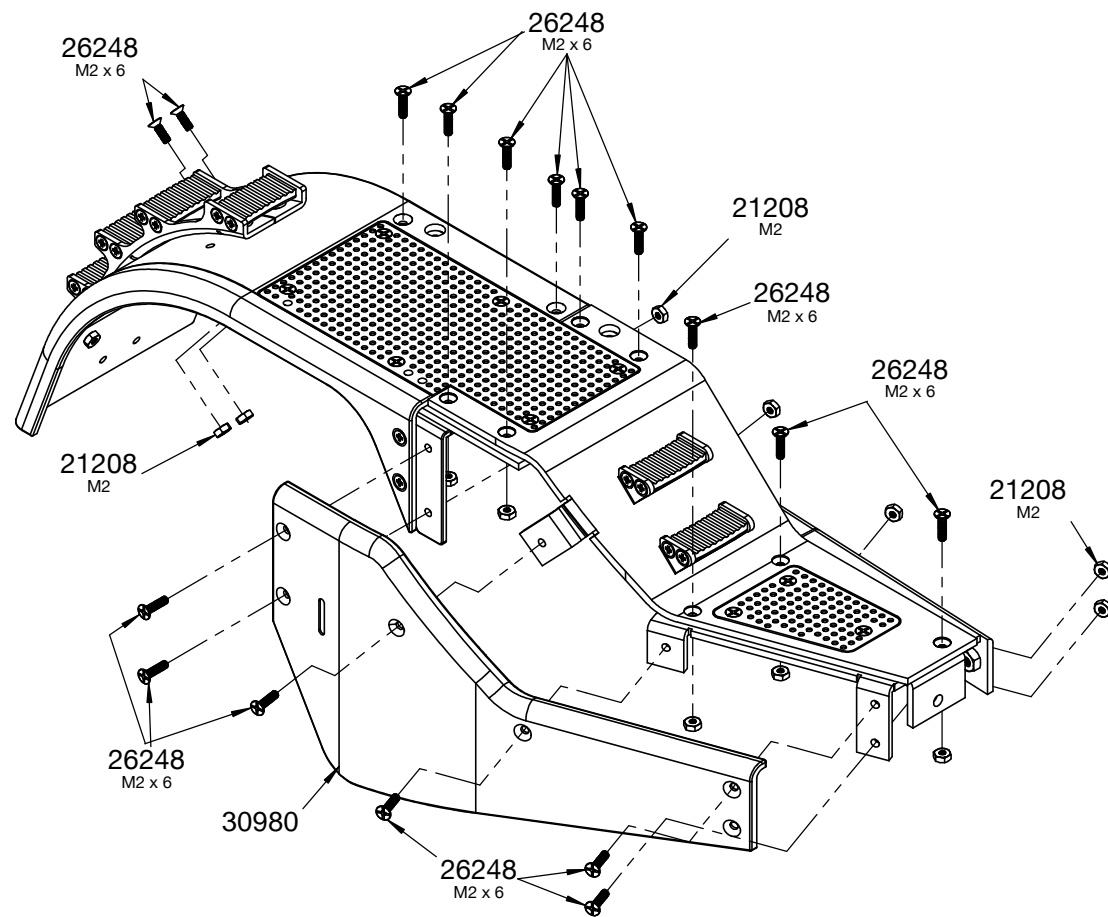
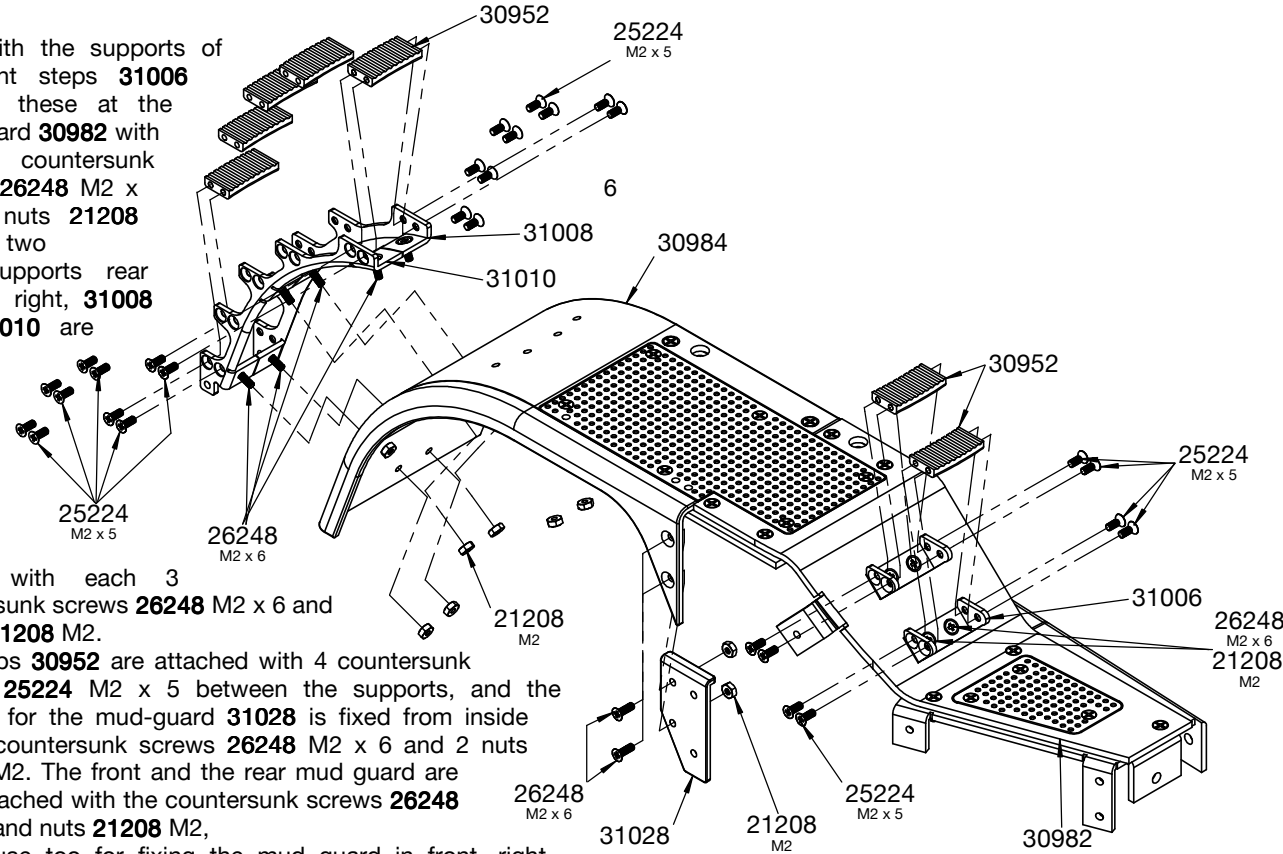
### 27. Mounting front carriage Mud guard – step with lateral holes

Start with the supports of the front steps **31006** and fix these at the mud-guard **30982** with each 2 countersunk screws **26248** M2 x 6 and 2 nuts **21208** M2. The two Step supports rear left and right, **31008** and **31010** are also fixed to the mud-guard

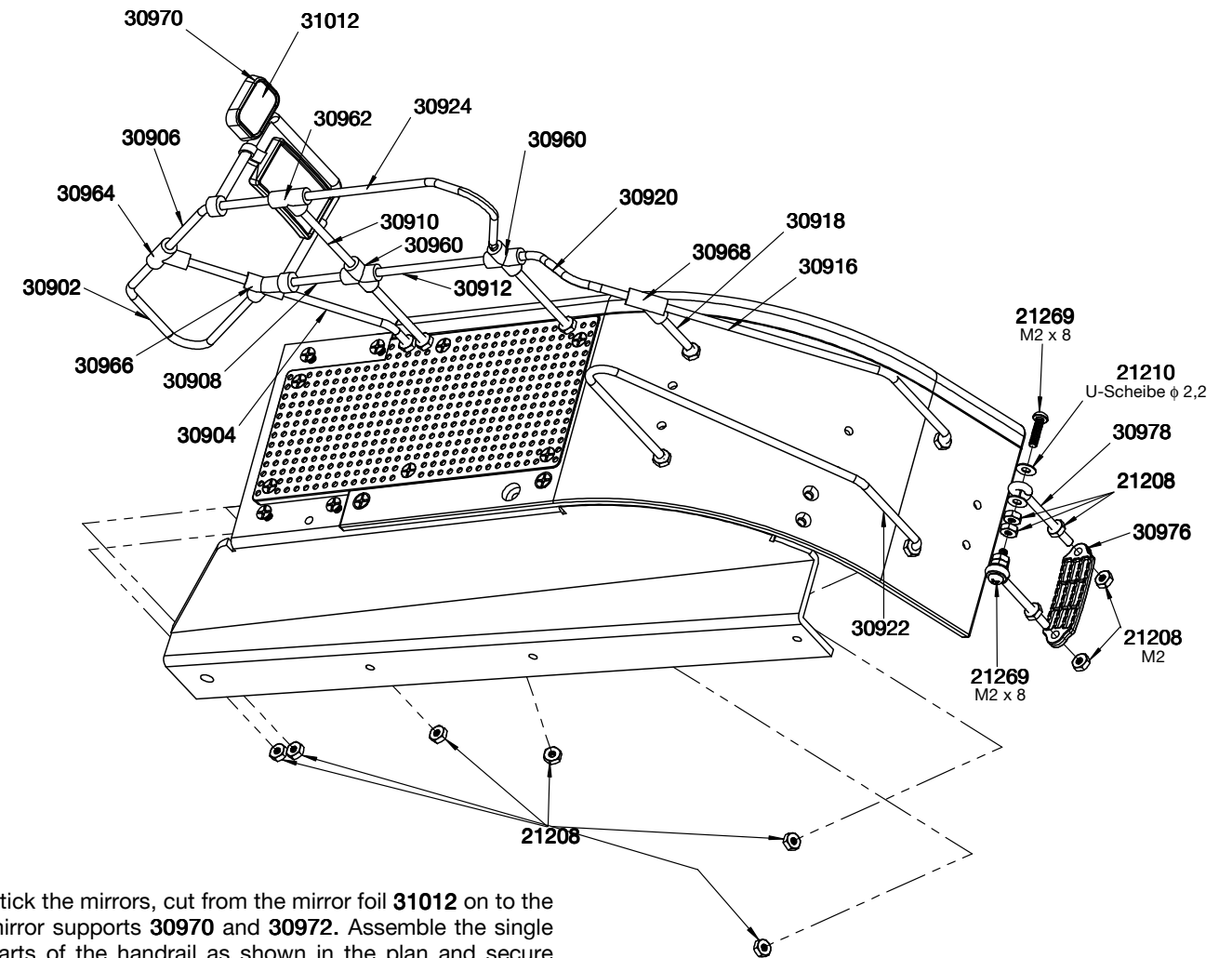
Rear right **30984** with each 3 countersunk screws **26248** M2 x 6 and 3 nuts **21208** M2.

The steps **30952** are attached with 4 countersunk screws **25224** M2 x 5 between the supports, and the support for the mud-guard **31028** is fixed from inside with 2 countersunk screws **26248** M2 x 6 and 2 nuts **21208** M2. The front and the rear mud guard are both attached with the countersunk screws **26248** M2 x 6 and nuts **21208** M2,

Which use too for fixing the mud guard in front, right outside, **30980**. The assembly and attachment of the left mud guard is done in mirror image.



### 28. Mounting front carriage Rail – handrail



Stick the mirrors, cut from the mirror foil **31012** on to the mirror supports **30970** and **30972**. Assemble the single parts of the handrail as shown in the plan and secure them with a drop of glue, if necessary. Screw a nut **21208** to the end of the threads. After the handrail has been aligned by turning the nut M2, fasten the complete rail from below with a nut M2.

The two movable steps are mounted under the rear mud-guards. Push the raised sheet head screw **26248** M2 x 8 with a step support **30978** through the bore holes and secure the step from inside with a nut **21208** M2. Stick the nut or attach a counter nut. The step should have a bit clearance.

Assembly step 27 Mud guard

Qty.	No	Assembly part
60	21208	Nut M2
56	25224	Countersunk screw M2 x 5
60	26248	Countersunk screw M2 x 6
14	30952	Step with lateral holes, mud guard
1	30980	Mud guard, front, right, outside
1	30982	Mud guard, front, right
1	30984	Mud guard, rear, right
1	30986	Mud guard, front, left, outside
1	30988	Mud guard, front, left
1	30990	Mud guard, rear, left
4	31006	Support, step with lateral holes, front
2	31008	Support, step with lateral holes, rear, left
2	31010	Support, step with lateral holes, rear, right
1	31026	Support, mud guard, left
1	31028	Support, mud guard, right

Assembly step 28 Rail handrail

Qty.	No	Assembly part
42	21208	Nut M2
8	21210	Washer $\phi$ 2,2
4	21269	Raised cheese head screw M2 x 8
2	30902	Rail front bow
2	30904	Rail front stay
2	30906	Handrail front
2	30908	Rail transition piece, front
2	30910	Rail adaptor vertical
2	30912	Rail transition piece, middle
1	30914	Handrail, middle, right
2	30916	Handrail, rear, outside
2	30918	Rail adaptor vertical, rear
1	30920	Handrail, curved, rear, right
1	30922	Handrail, rear, right, inside
1	30924	Handrail, middle, left
1	30926	Handrail, curved, rear, left
4	30960	Handrail support, straight, 4 holes
2	30962	Handrail support, straight, 3 holes
2	30964	Handrail support, curved, 3 holes, front
2	30966	Handrail support, curved, 4 holes
1	30968	Handrail support, curved, 4 holes, rear
1	30970	Mirror support, left
1	30972	Mirror support, right
2	30976	Step with lateral holes, ladder
4	30978	Support, step with lateral holes
1	31012	Mirror foil for CAT 740



## 29. Mounting front Carriage Hydraulic-Antenna-switch panel

Start with the assembly of the control block. The two eccentrics of the control block **31046** are supplied in zero-position and secured by a knurled screw. First shorten the servo levers which are attached to the servos. Round the cutting edges. Now the shortened servo levers are put into the milled positions at the control eccentrics. Connect the servos with the receiver of the radio control and set it in operation. Adjust the trimmer of the control station to zero position, herewith the servos are in zero position, too. Now place the supplied rubber sockets and the brass bushings in the fixing holes of the servos. Then put the servos into the servo levers and fix all with 4 pan head screws **29962** M2,5 x 8. Now the knurled screw can be removed. Please guard them well in order to use them when the eccentrics must be fixed again for reparation. Your supplier will recommend you the suitable servos you need.

The regulator for the constant voltage **20402** is screwed under the upper side of the support of the pump-oil filter-control block **31024**. The insulation strip **29950** is placed close by the metal and next by is the voltage regulator. Put the insulation grommet **29925** with the smaller diameter through the bore hole of the regulator. Fix all with a countersunk screw **20028** M3 x 6 and a nut **20040** M3. Now attach the charging socket **28458** with 2 raised cheese head screws **20018** M3 x 8 and 2 nuts **20040** M3 to the support.

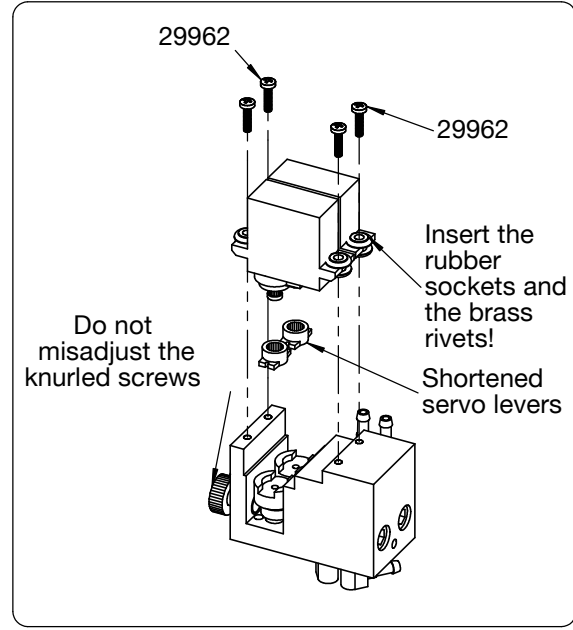
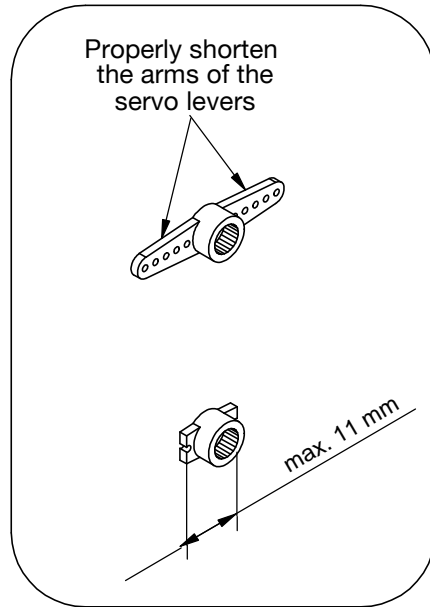
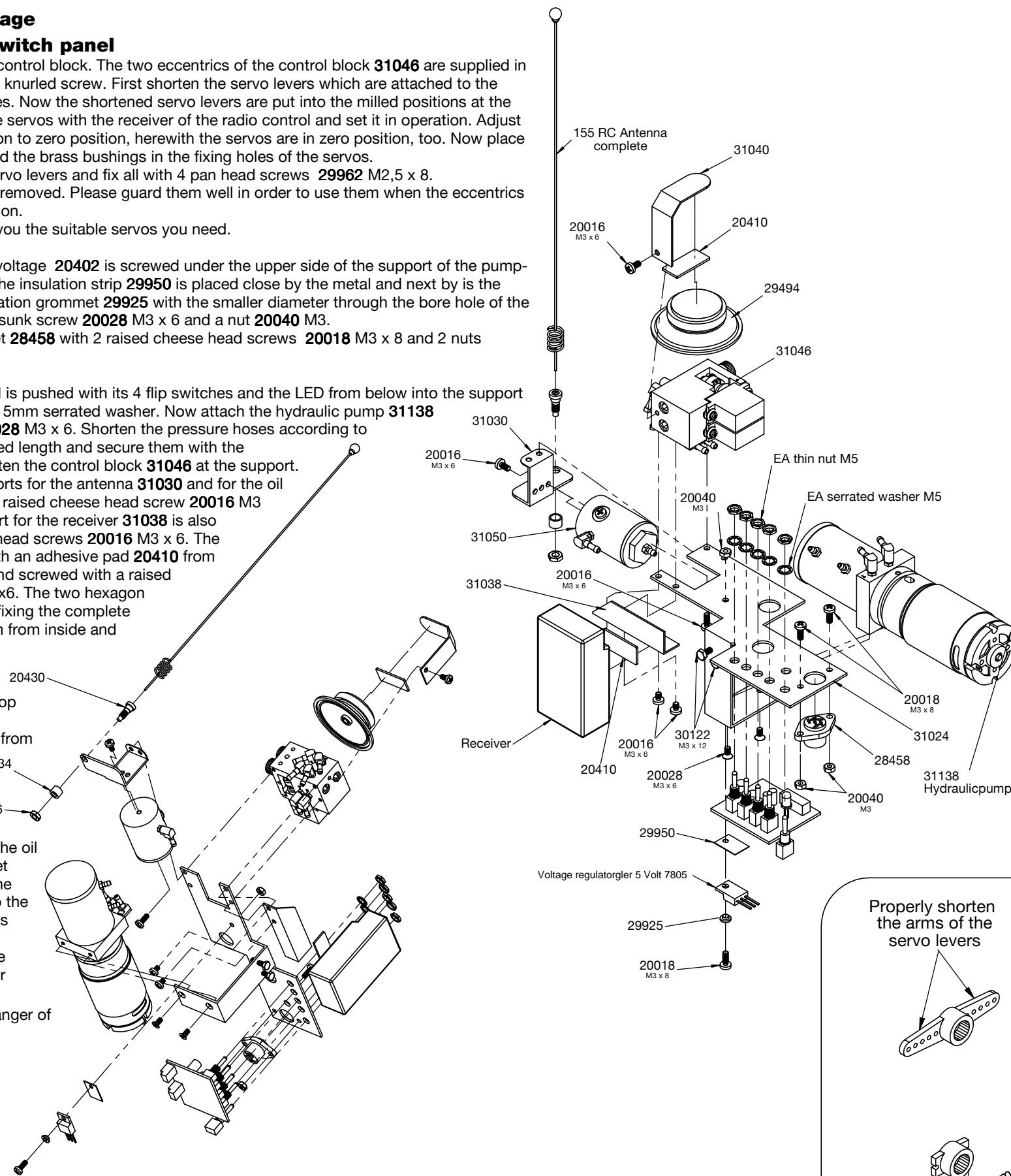
The switch board of the control is pushed with its 4 flip switches and the LED from below into the support and fixed with flat nuts M5 and 5mm serrated washer. Now attach the hydraulic pump **31138** with 2 countersunk screws **20028** M3 x 6. Shorten the pressure hoses according to the hydraulic plan to the required length and secure them with the appropriate bushing. Then tighten the control block **31046** at the support. In the backward area the supports for the antenna **31030** and for the oil filter **31050** are screwed with a raised cheese head screw **20016** M3 x 6. At the right side the support for the receiver **31038** is also screwed with 2 raised cheese head screws **20016** M3 x 6. The loudspeaker **29494** is stuck with an adhesive pad **20410** from below on to its holder **31040** and screwed with a raised cheese head screw **20016** M3 x 6. The two hexagon screws **30122** M3 x 12 are for fixing the complete holder to the frame. Insert them from inside and tighten them slightly.

The receiver should be placed in that way, that the sockets for each servo, are in top position. The switch for the pump is put from below into the 5th bore hole of the support and secured with a serrated washer and a half nut M5. The antenna is fastened into the prepared bore hole at the oil filter holder. The antenna socket **20430** is put from above and the antenna **20434** from below into the bore hole. The antenna holder is fixed with a half nut **23736** M4. Later on the antenna wire of the receiver will be soldered here or squeezed.

Attention: Squeezing means danger of short circuit.

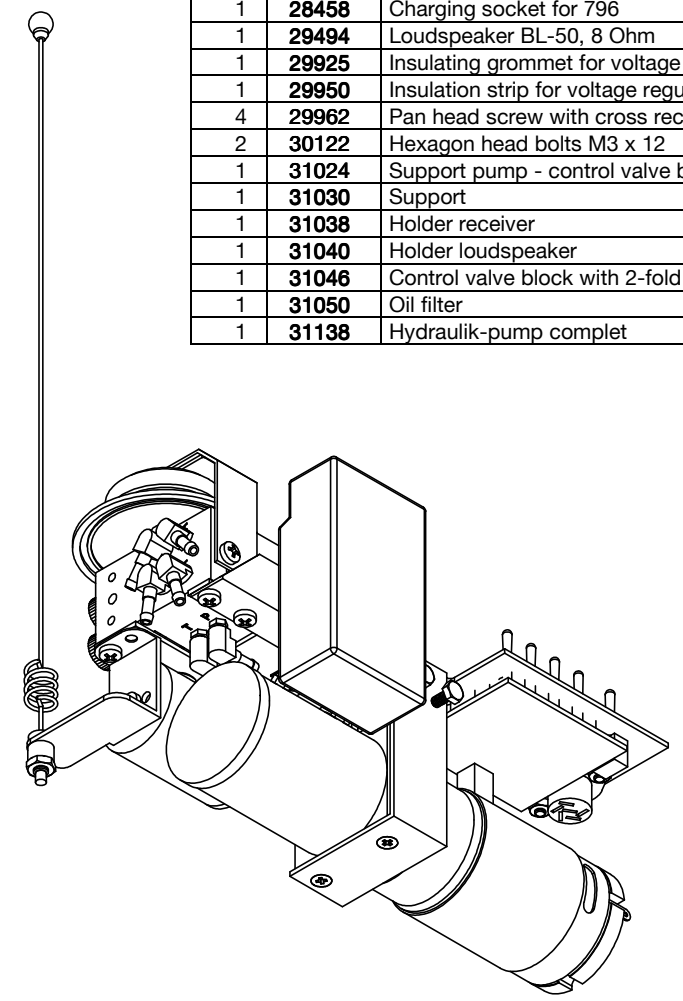
### ATTENTION!

The hoses for filling and ventilation must be torn upwards, otherwise oil will leak.



Assembly step 29 Hydraulic - antenna - switch panel

Qty.	No	Assembly part
5		EA serrated washer 5,3
5		EA thin nut M 5
5	<b>20016</b>	Raised cheese head screw M3 x 6
3	<b>20018</b>	Raised cheese head screw M3 x 8
2	<b>20028</b>	Countersunk screw M3 x 6
3	<b>20040</b>	Nut M3
1	<b>20402</b>	Voltage regulator 5 Volt 7805
1	<b>20410</b>	Adhesive pad, double-sided
1	<b>28458</b>	Charging socket for 796
1	<b>29494</b>	Loudspeaker BL-50, 8 Ohm
1	<b>29925</b>	Insulating grommet for voltage regulator
1	<b>29950</b>	Insulation strip for voltage regulator
4	<b>29962</b>	Pan head screw with cross recess M2,5 x 8
2	<b>30122</b>	Hexagon head bolts M3 x 12
1	<b>31024</b>	Support pump - control valve block - oil filter
1	<b>31030</b>	Support
1	<b>31038</b>	Holder receiver
1	<b>31040</b>	Holder loudspeaker
1	<b>31046</b>	Control valve block with 2-fold control valve
1	<b>31050</b>	Oil filter
1	<b>31138</b>	Hydraulik-pump complet

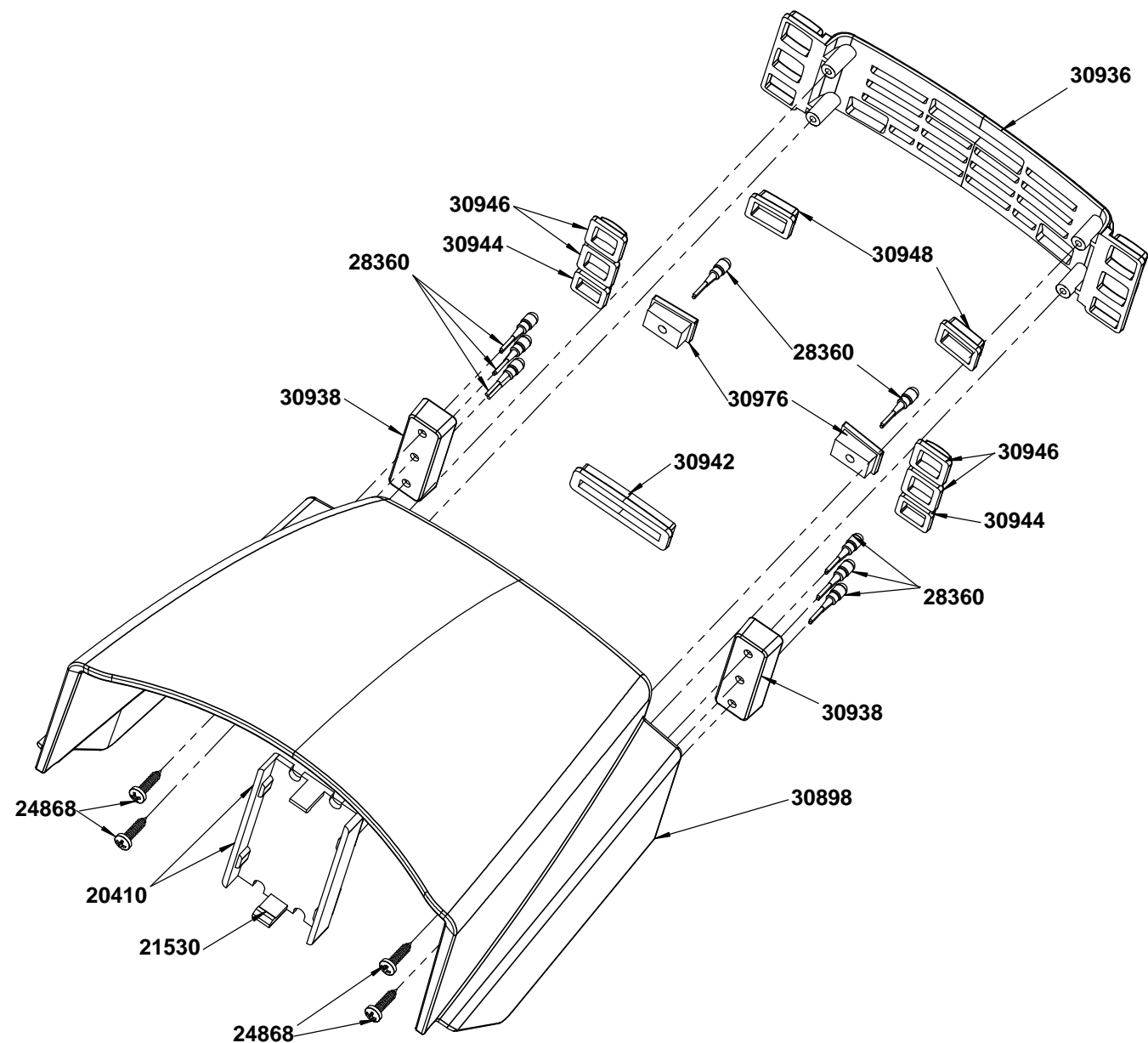


### 30. Mounting front carriage

#### Engine bonnet

Push the wires of the 6 bulbs **28360** first through the light boxes **30938** and then through the opening of the engine bonnet **30898**. Press the lenses of the fog lamp **30944**, of the head/high lights **30946** and of the two indicators **30948** into the radiator grille **30936** and fix all with 4 pan head tapping screws **24868**  $\phi$  2,2 x 9,5. Fix the small holder for the PCB support small with 2 adhesive pads **20410** between the strengthening ribs of the engine bonnet. The accumulator **30040** (12 Volt – 2700 mAh) is fixed under the engine bonnet with a hook and loop fastener **31116**. This mounting should be done only when the radio control system is installed. Pay absolute attention that the wires are exactly layed and nowhere squeezed. The connecting wires of the electrical system are layed from below.

Assembly step 30 Engine bonnet		
Qty.	No	Assembly part
2	20410	Adhesive pad, double-sided
1	21530	PCB support small
4	24868	Pan head tapping screw f 2,2 x 9,5
8	28360	Bulb 5V / 60mA
1	30898	Engine bonnet
1	30936	Radiator grille
2	30938	Light box
1	30942	Manufaction mark
2	30944	Foglamp, lens
4	30946	Headligh, lens
2	30948	Indicator, lens



### 31. Mounting wheels

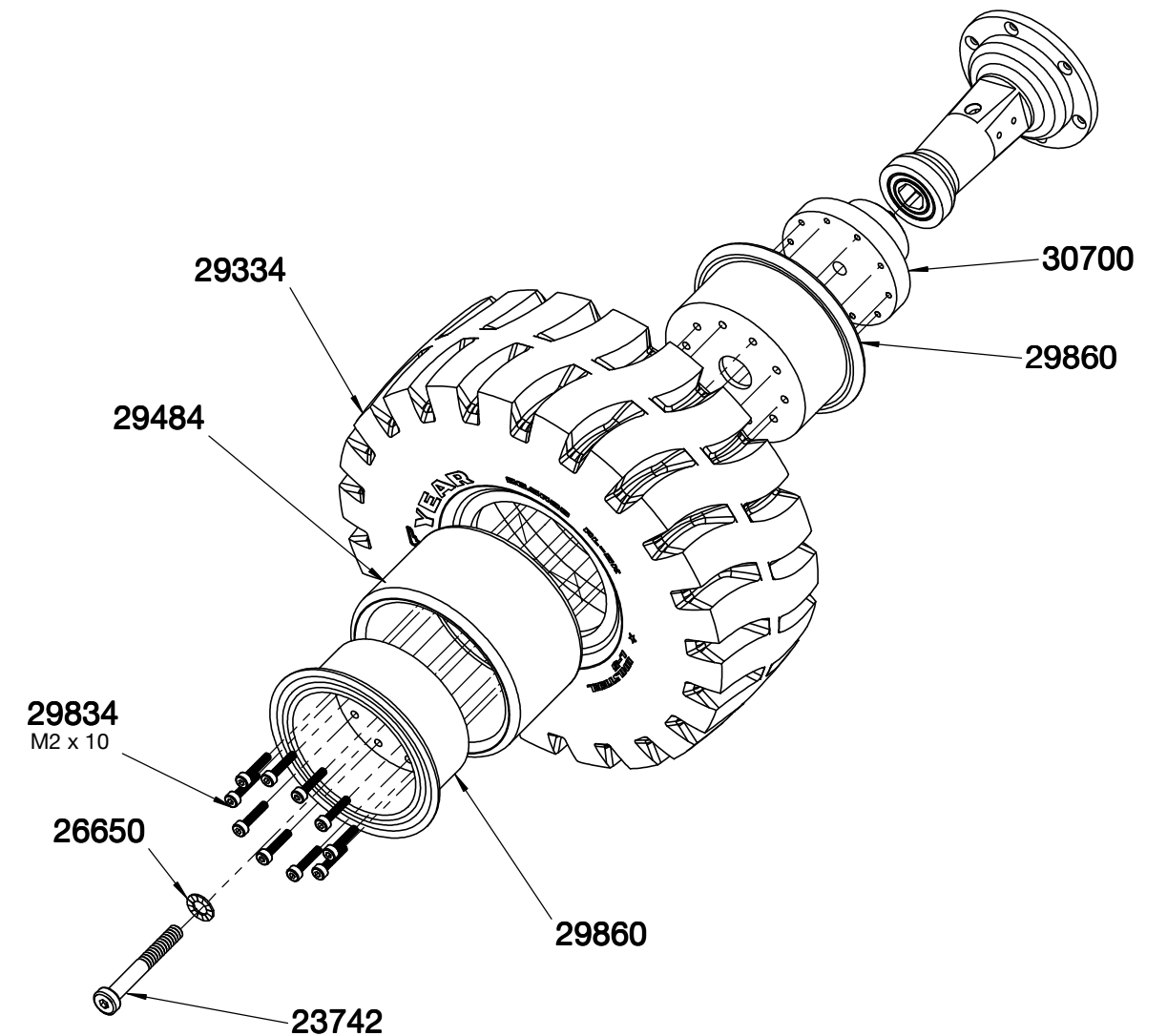
The rim adaptors **30700** are for sake of security already mounted. The ball bearing in the axle is loose.

First dismantle the rim adaptor. Before you now mount the tyre, place a distance sleeve **29484** into the tyre **29334** so that both tyre walls are in exact centric position on the sleeve. Now press from both sides the rim into the tyre. Pay attention that the bore holes are aligned. Now fix the wheel with 10 hexagon socket head cap screws **29834** M2 x 10. The initially removed hexagon socket head cap screws **23740** M4 x 25 can now be attached again with a serrated washer **26650**  $\phi$  4,2. Make sure that all wheels run perfectly, then secure the hexagon socket head cap screw M4 with corresponding securing glue.

#### Attention!

The perfect fit of the wheels should be checked regularly before a first run in the open air.

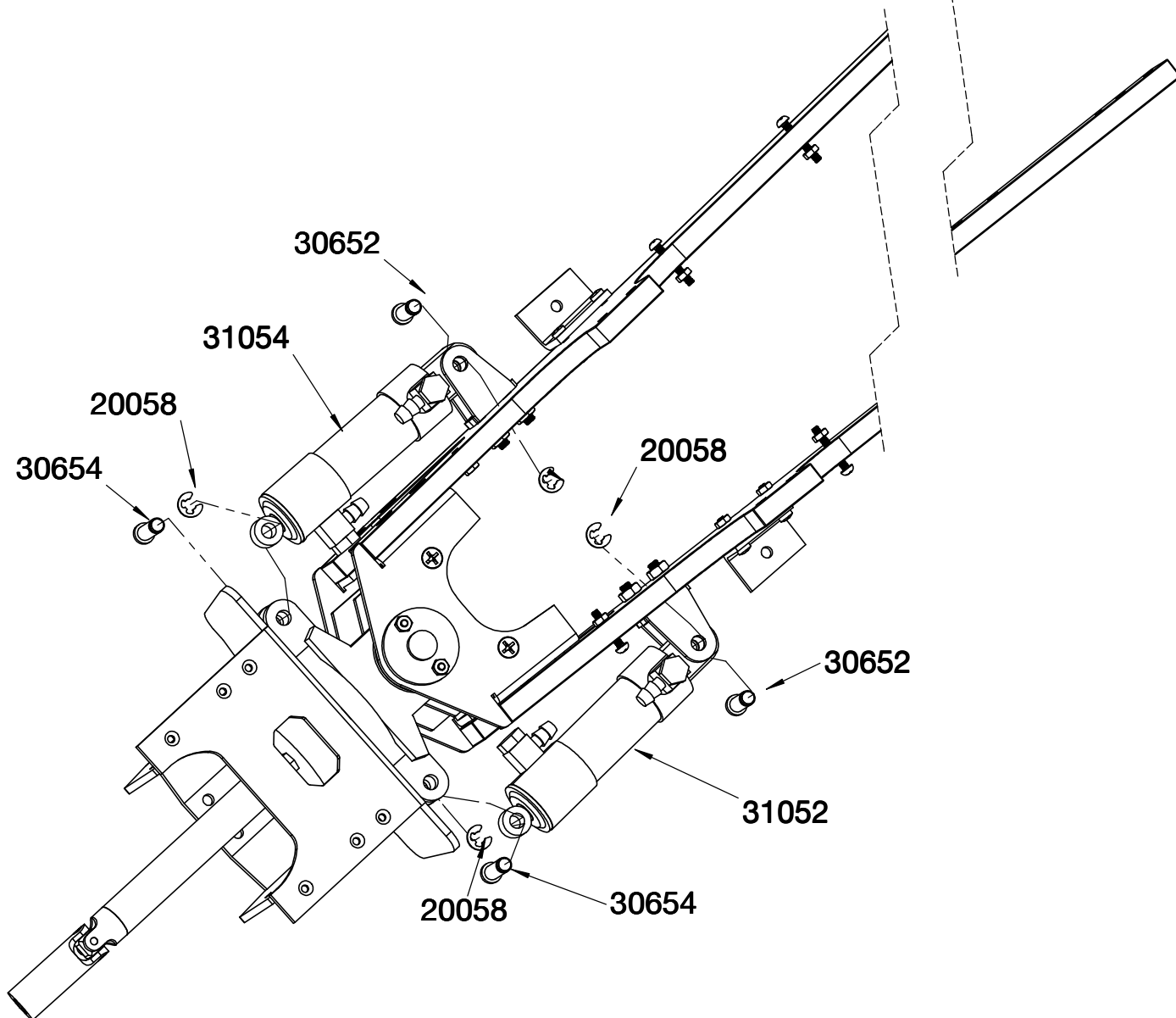
Assembly step 31 wheel		
Qty.	No	Assembly part
6	23742	Hexagon socket head cap screw M4 x 30
6	26650	Serrated washer f 4,3
6	29334	Tyre GOODYEAR
6	29484	Distance sleeve tyre
60	29834	Hexagon socket head cap screw M2 x 10
12	29860	Rim yellow
6	30700	Adapter rim
1	30735	Hexagon spanner 1,5mm



### 32. Mounting front carriage Steering cylinder

The two steering cylinders are distinguished by the position of their connectors. Opposite of the frame support the connectors are turned to the inside. We achieve herewith very short hoses and thus very direct steering. Fasten one steering cylinder each **31052** and **31054** with a bolt **30652** and a retaining washer **20058**  $\phi$  3,2 at the frame. The other side of the cylinder (piston) is fastened to the support of the hind carriage with each one bolt **30654** and one retaining washer **20058**.

Assembly step 32 Steering cylinder		
Qty.	No	Assembly part
1	31054	Steering cylinder, left, with screw fitting
1	31052	Steering cylinder, right, with screw fitting
2	30652	Bolt $\phi$ 4 x 11
2	30654	Bolt $\phi$ 4 x 13
4	20058	Retaining washer for shafts f 3,2



### 33. Mounting Electronic Speedcontroller with sound module - central control board

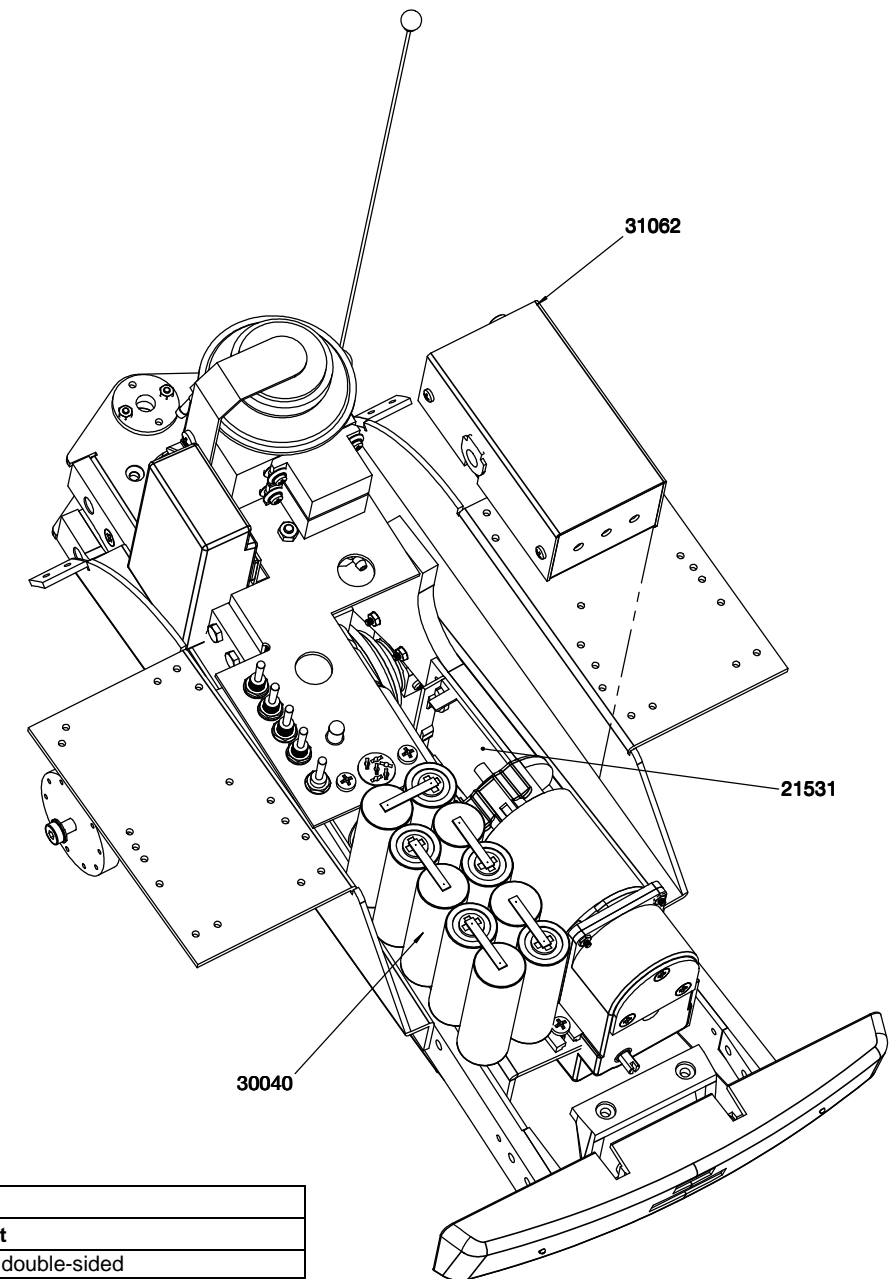
Please, be especially careful when inserting the electronic part.

The PCB support big of the electrical system is placed at the left side of the engine trough. The big PCB support **21531** is attached with two adhesive pads **20410**. Thus the PCB board can be removed and attached without any difficulty. Anyway, it is indispensable to lay the wires very tidy. Alternately, after the wires have been layed and after a final functions' control, you can protect the PCB board in a shrinking hose and then place it in the engine trough.

The speed controller with sound module **31062**, is placed movable between the gear and the hydraulic sheet as shown in the plan. Between the pump motor and the regulator case must not lay any wires. Otherwise the driver's cabin cannot be set up properly. Tear the wires either to the front or to the back alongside the pump motor. Should there be not enough place (surplus of cables), countersunk screws can replace the two pan head tapping screws at the backside of the regulator case. Be careful when dismantling the housing and lowering the bore holes.

#### Attention!

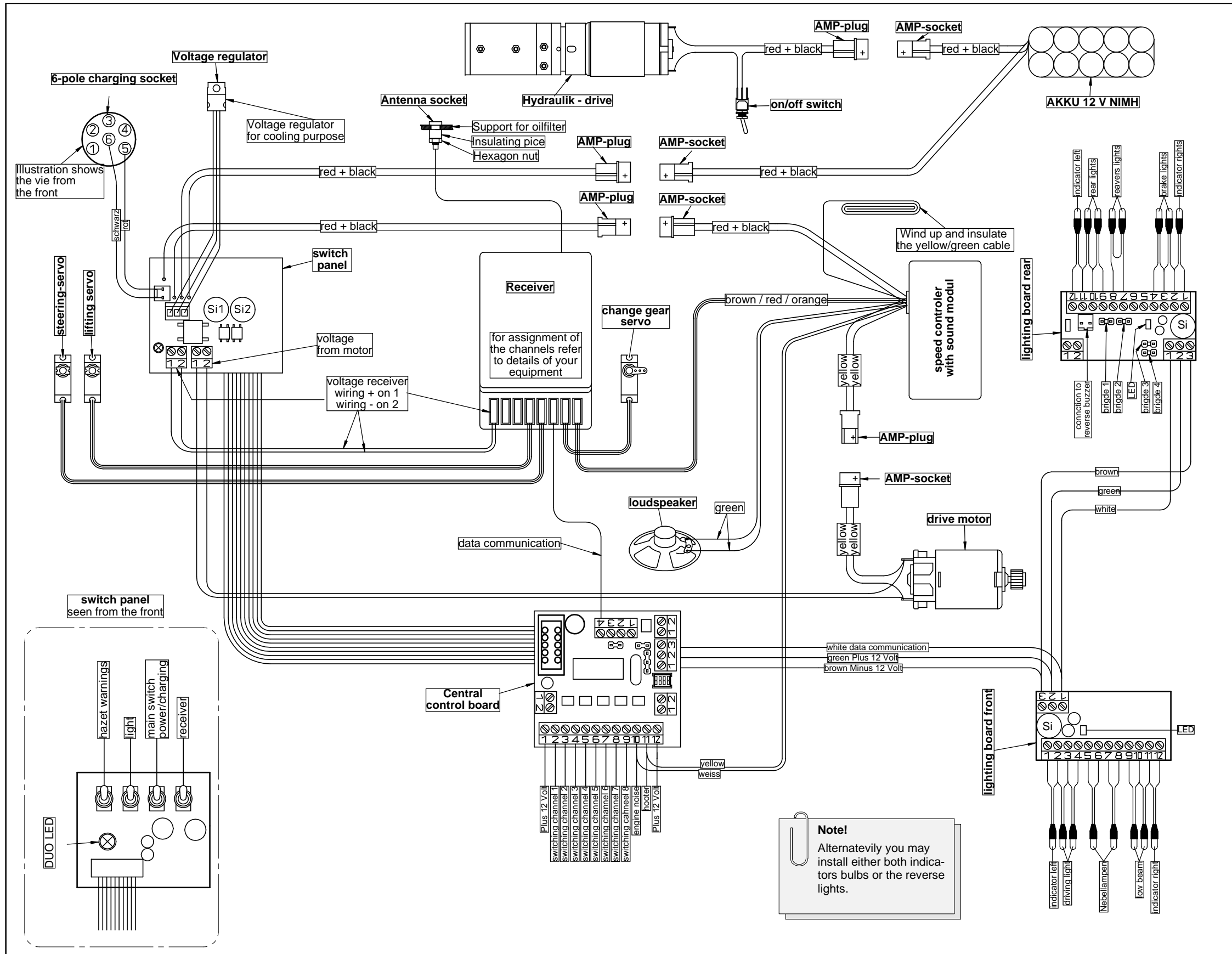
Please, check the distance between the connection clips of the pump motor and the transmission shafts of the gear box.



Assembly step 33 Electronic		
Qty.	No	Assembly part
2	20410	Adhesive pad, double-sided
1	21531	PCB support, big
1	30040	Akku 12 volt 2700mAh
1	31062	Speedcontroller with sound module, DUMPER



# Wiring diagram



  
**WEDICO**  
 ASSEMBLY INSTRUCTION  
**Set of Electrics**  
 for DUMPER CATERPILLAR 740  
**Art.-No. 3110-1**

**General notes**  
 WEDICO is offering this Set of Electrics specially for the **WDUMPER 740, Art.-No. 3110**. The set includes the following components: Electrical System „MF“, Electric motor 12V, All-Wheel 3-speed gearbox including cardan joints, NiMH battery 12V 3.0 Ah, Speed controller along with sound module, loudspeaker and antenna. Detailed drawing as well as all notes concerning the attachment of the single components are included with the Assembly Instructions supplied with the wheel loader.

**Special Notes for the Electrical System**  
 This Electrical System **“MF - 2” (Multi Function)** allows the various functions to be transmitted serially by one data line only. This equipment consists of a switch panel, a central control board, front and rear lighting boards as well as a control board provided for the proportional hydraulic steering.

**Special notes for the remote-control equipment**  
 When using this Electrical System “MF”, only the encoding module plugged into your transmitter is necessary to operate all functions:

- Graupner:** 16 channels NAUTIC-Expert-Module
- Robbe Futaba:** Multi-Switch 16 Modules
- MULTIPLEX:** MULTInaut top Generator Module

Only RC systems using PPM modulation may be used. RC units with PCM cannot be used.

The receiver modules (decoders) usually required are no longer necessary as a Decoder matching the above mentioned RC types has already been integrated with this new Electrical System “MF” (please refer to the following notes).

The illustration on top of page 2 shows the plan of the switch modules on the different types of RC units. Those switches marked by figures only are free switching channels to be assigned. And those switches specially indicated are absolutely determined. Please refer to the following notes.

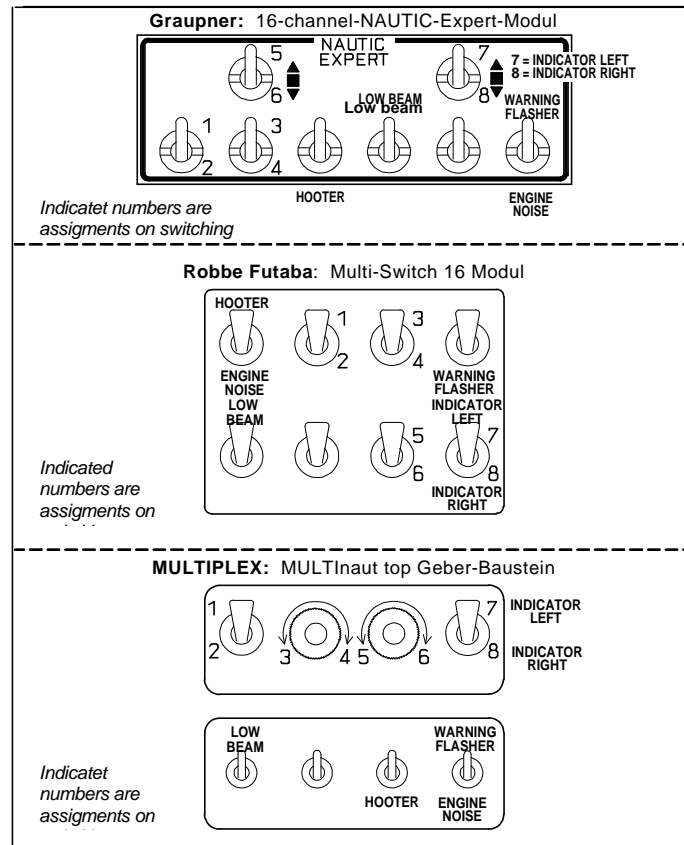
**Special notes for the speed controller with sound module**

The speed controller is matched to the WEDICO-Bühler motor. The sound module has been constructed in SMD technics using a microcontroller, specially produced for WEDICO. Produced by a so called “Sound sampling” the electronic circuit generates a true to life engine noise analogue to the engine speed. This method digitises the original noise - in this case of the CATERPILLAR wheel loader.

The electronic part of the Speed Controller is installed into a case which may not be opened. Opening the case cancels the guarantee!

**Important!** After having switched on the electric system you need to wait at least five seconds before you start the programming procedure of the speed controller itself – otherwise programming cannot be executed!

Pay attention that all electrical connections have clean soldered points and correctly clamped sockets in order to avoid any fault that hardly can be found.



**Switch panel**

The wiring diagram on page 1 shows the different functions of each switch. There is a two-colour lighting diode on the switch side: at normal state it lights up in colour green, at inferior voltage (abt. 10V) the diode lights up in colour red. In that case the NiCad motor battery must be recharged.

Connect the battery line of the receiver to terminal 1 (+) and to terminal 2 (-) of the BEC voltage. Pay attention to absolute correct polarity. The max. output is 2 amp. A LED at the backside of the board confirms the correct voltage of 5V at each terminal by lighting up in yellow colour. If this LED does not shine, check whether the 2-ampere fuse "Si1" is faulty or whether the external voltage regulator is stuck correctly to the 3-pole plug board.

Connect the red-black cable to the clamps 1 and 2 for the engine connection and solder it on to the junction points of the driving engine. The reverse light and the brake light are operated by this cable. Should the rear lights shine during the forward drive, exchange the engine connections on the switch panel against each other.

The 10-pole ribbon cable with socket plug fastened at the switch panel is stuck to the 10-pole plug board of the central control board. This cable supplies the voltage for the central control board and both lighting boards, what is confirmed by the lighting up of the yellow LED. Otherwise check the wiring and the 4 amp. fuse "Si2" by which the voltage is protected.

Connect the 12V battery to the AMP plug and the speed controller to the AMP socket. Plug the cable of the 6-pole charging socket to the 2-pole plug board. (Max. charging current at the 6-pole socket: 2A !)

**Central control board**

The central control board represents the heart of the Electrical System "MF". This central board works as follows: all operating functions are executed via one proportional channel. Both lighting boards, the switching channels as well as the white and yellow wire for the horn and the motor noise may be connected to the central board. This switching channels as well as the engine noise are memory executed, while the switching channel for the hooter is working as key function. All these outputs are connecting through minus. They are protected by recovery diodes and limited to 0.5

amp. max. the total charge of the central board and both lighting boards may not exceed 4 ampere.

The pulse line for the proportional channel of the switching function must be connected to terminal 4 on the 4-pole terminal board. Those channels still remaining free, may be used for individual special functions. It is always the minus to be switched. The positive connection for special functions may be connected to either terminals 1 and 12 of the 12-pole screw terminal board, or to terminals 1 and 2 of the 2-pole screw terminal board.

**Rear lighting board**

Cut the supplied black cable (3 x 0,14mm white-green-brown) to a suitable length and use it to connect the rear lighting board to terminals 1, 2 and 3 of the 3-pole screw terminal on the central board (pay attention to correct polarity !) The perfect connection is confirmed by the lighting up of the yellow LED when system is switched on. Otherwise check the wiring and the 0,5 amp. fuse "Si". Follow the wiring diagram on page 1 to add the 5V bulbs to the 12-pole screw terminal board. When connecting 2 bulbs each for the fog tail light – if existing – and the rear lighting, bridges 1 and 2 are plugged in. If only one bulb is connected for the fog tail light, remove bridge 2, and remove bridge 1 if only one bulb is connected for the rear lighting. Beside the bridges there is a 2-pole pin terminal for the connection of the also supplied (12V/20mA), that is switched on automatically with the reverse gear.

**Front lighting board**

The front lighting board is also connected with the black cable of suitable length (3 x 0,14mm<sup>2</sup> white-red-black) to the central control board. Here, too, pay attention to the correct polarity ! To connect the 5V bulbs with the 12-pole screw terminal panel, please, follow the wiring diagram. Here, too, the perfect connection is confirmed by the lighting up of the yellow LED. Otherwise check the wiring and the 0,5 amp. fuse "Si".

**Hydraulic pump with motor**

The hydraulic pump is connected to the other AMP socket of the 12V battery. After the radio control and the electronic of the dumper are switched on and ready to go, start the hydraulic pump with the on/off switch. It runs permanently. This ensures that all functions may be operated at any time.

**Speed controller with sound module**

Both green cables are soldered to the supplied loud-speaker. Connect the AMP socket with the yellow cables to the corresponding AMP plug at the driving engine. Connect the AMP socket with the red-black cables to the AMP plug of the Control board. The connection of the green-yellow cables of the brate light is dropped (please, wind up and insulate them). Attach the connection socket with the brown-red-orange cable to one of the receiver terminals. Should the socket not suit to the receiver you must use an adapter cable (not contained in the kit).

**Initial operation of the electrical system**

Prior to the initial operation carefully check again all connections as well as the complete wiring. All switches at the sender are in central position. First the radio control is started: First switch on the sender, then the receiver.

The two-colours LED at the control board has to light up green. The yellow LED at the back side lights up, too. Every switch and joy-sticks must be in "0" position. Do not activate any switch or proportional channels. Within 5 seconds the electrical system will identify the type of RC equipment operating, the result is confirmed by the blinking signals of the front beams:

- Blinking once: Graupner
- Blinking twice: MULTIPLEX
- Blinking three and four times: Robbe/Futaba.

If you have installed the indicator bulbs, next the warning light blinks once. Afterwards the brate lights start working for approx. 6 – 7 seconds. Now the system is ready to operate. This test running is done each time when the electrical system is switched on.

**How to programme the speed controller**

Put the hexagon of the adjusting angle for the potentiometer (hereafter called "adjusting angle") carefully through the bore no. 4 of the speed controller housing and insert it into the switch laying behind. By turning the adjusting angle the programming of the speed controller is started. Left in centre position the switch is open, i.e. "SWITCHED OFF". Turning the adjusting angle till the right-hand catch, the switch is closed, i.e. "ON". If you want to do the programming later, just leave the adjusting angle in centre position.

**Attention:** Wait for at least five seconds after switching on the electrical system and before starting the programming procedure. Otherwise it cannot be executed.

For programming please proceed as follows:

1. Leave the electrical system in "OFF"-position. First turn the adjusting angle to the right-hand catch (= position "ON"). Then switch-on the main switch, then transmitter and then receiver (the system is "ON" now).
2. Leave the control stick of the transmitter in "STOP" position, turn the adjustingangle to "OFF" and then back to "ON" position. Takeover of the mode is confirmed by the sound of the horn. For this procedure it is not necessary to switch on the diesel engine noise.
3. Turn the control stick at the transmitter to the maximum "forward" position. Afterwards turn the adjusting angle to the "OFF" and then again to the "ON" point. The correct procedure is confirmed by the sound of the horn and the mode is programmed.
4. To fix the maximum "forward" speed, turn the control stick to the required position. Now turn the adjusting angle to the "OFF" and then back to the "ON" point.
5. Fix the maximum point of the "reverse" speed in the same way. Turn the adjusting angle to the "OFF" and then back to the "ON" point.
6. Fix the maximum "reverse" speed itself. Turn the adjusting angle to the "OFF" and then back to the "ON" point.
7. Turn the adjusting angle once again to "OFF" and back to "ON". Now all modes are memorized in the EEPROM.
8. Finally turn the adjusting angle to the "OFF" point.
- 9.

This speed controller will not fail in case of an interruption of transmission impulse; the engine control is immediately switched off by the electrical system.

Also far on the diesel engine is started or stopped by means of the radio control.

A switching-off during the starter noise means that the engine will not start but is switched off immediately.

**Adjustment of running speed and loudness**

The engine noise is heard via the loudspeaker and changes correspondingly to the engine speed. It can be adjusted by turning the grooved pin in the bore hole no. 3. (The hooter works even if the motor sound is in off-position.)

**At hole no. 5 you can increase the turns of idling of the engine noise. Carefully insert the adjusting angle of the potentiometer with its hexagon through the bore hole no. 5 of the speed controller housing into the behind lying potentiometer. By turning the angle to the right the idling turns can now be adjusted.**

**Trouble shooting**

The engine does not work after the programming is finished.	The function "forward/backward" of the corresponding channel of the transmitter must be exchanged (normal/reverse). Please refer to the instruction of your Transmitter.
The engine does not work at all.	Insufficient cable connections; Receiver voltage below 3 V ; Voltage of main Ni-Cads too low (less 8V)

**Spare parts**

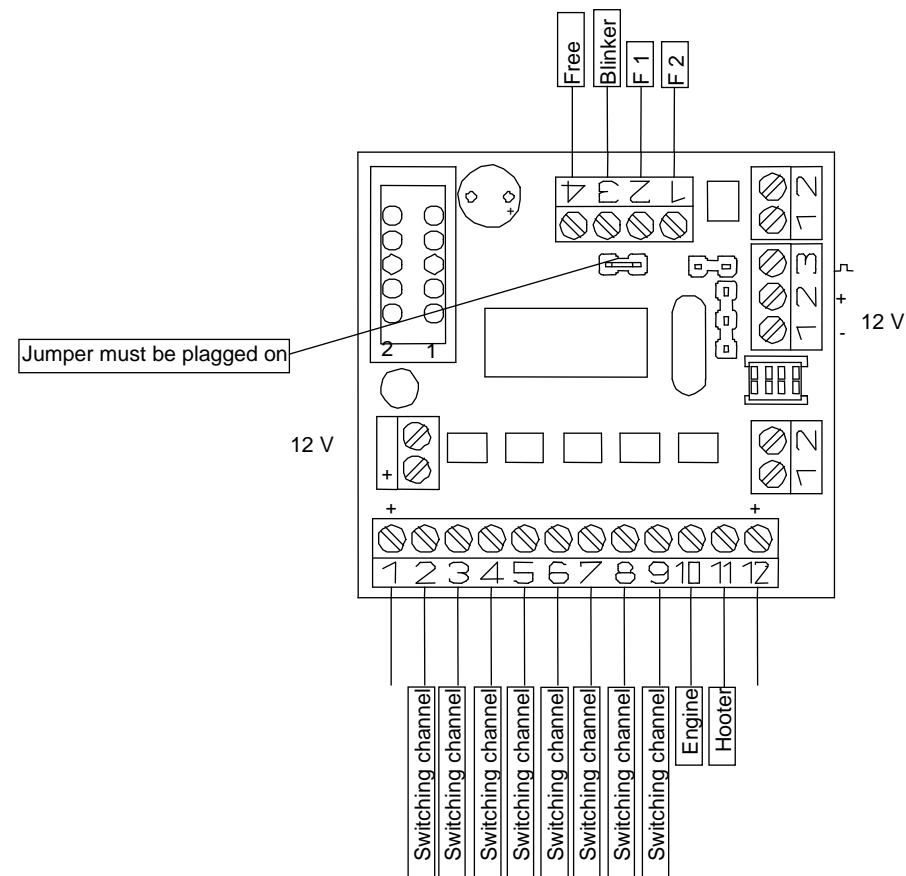
2 fuses "Si1" 2A and 2 fuses "Si2" 4A and 4 fuses "Si" 0,5A 5 bulbs 5V / 60mA	<b>Art.-No. 798</b>  <b>Art.-No. 799</b>
--	--

Qty.	Assembly part	EDP-No.
1	Cable 3 x 0,14, 1500mm long	---
2	Shrinkdown plastic tubing for PCB support rear	---
3	Screw M3 x 8	20018
3	Nut M3	20040
8	Adhesive pad, double sided	20410
1	Antenna socket complete.	20430
1	Antenna wiht ball	20432
2	PCB support small	21530
1	PCB support, big	21531
1	Bühler motor incl. 14 teeth pinion	22298
1	Insulation socket for voltage regulator	25120
1	Adjusting angle for potentiometer	25369
1	Charging cable	26700
1	Motor pinion, brass with 12 teeth	27964
16	Bulb 5V / 60mA	28360
1	Switchpanel for 796	28388
1	Centrel controlboard for 796	28390
1	Lighting board front for 796	28392
1	Lighting board rear for 796	28394
1	Voltage regulator 5 Volt 7805	28402
1	Charging socket for 796	28458
1	Loudspeaker BL-50, 8 Ohm	29494
1	Insulation strip for voltage regulator	29950
1	NiMh-Akku 12V, 2700 mAh	30040
1	Speedcontroller with sound module, DUMPER	31062

Please use EDP no when ordering spare parts

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### Adjustment and funktion of the control circuit board for proportional systems



### Special adjustments control circuit board

The new electrical MF system (start of delivery 15<sup>th</sup> April 2005) works either with a 16 channel modul or with radio control units that provide 2 or 3 proportional channels (for ex. 3 steps-up switch) for the switch functions. While the use of 2 channels is obligatory, 3 channels can use, too. Except switch 1 all channels have two functions with different activations times. When the proportional channels are in use the jumper on the control board must be plugged-on. When using a 16 channel modul the contact is off.

Hooter and headlamp flasher work only as long as the switch is activated (push or switch it). When the switch is detached the function will stop (no latch). All other functions stay working and stop only after the switch is pressed again (latch). The switch positions "UP" and "DOWN" can be exchanged corresponding to the system.

For the proportional system the following functions are working:

Switch 1 (S 1) (pulse line is connected to terminal 3 of the 4-pole plug-in strip of the control circuit board)  
 Blinker left hand  
 Blinker right hand

Switch 2 (S 2) (pulse line is connected to terminal 2 of the 4-pole plug-in strip of the control circuit board)  
 Short up = low beam  
 Long up = warning flasher  
 Short down = engine noise  
 Long down = hooter

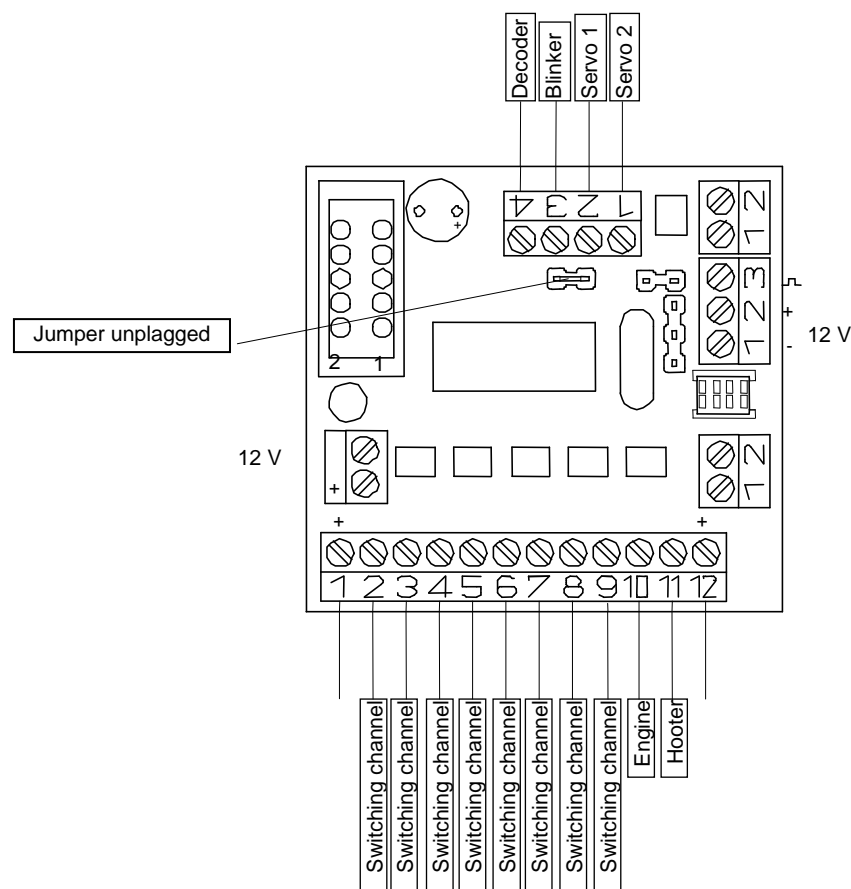
Switch 3 (S 3) (pulse line is connected to terminal 1 of the 4-pole plug-in strip of the control circuit board)  
 Short up = high beam  
 Long up = fog light / fog tail light  
 Short down = switching channel 1  
 Long down = headlamp flasher (high beam / fog light)

Before the proportional systems are activated all switches must be put to the CENTRAL POSITION.

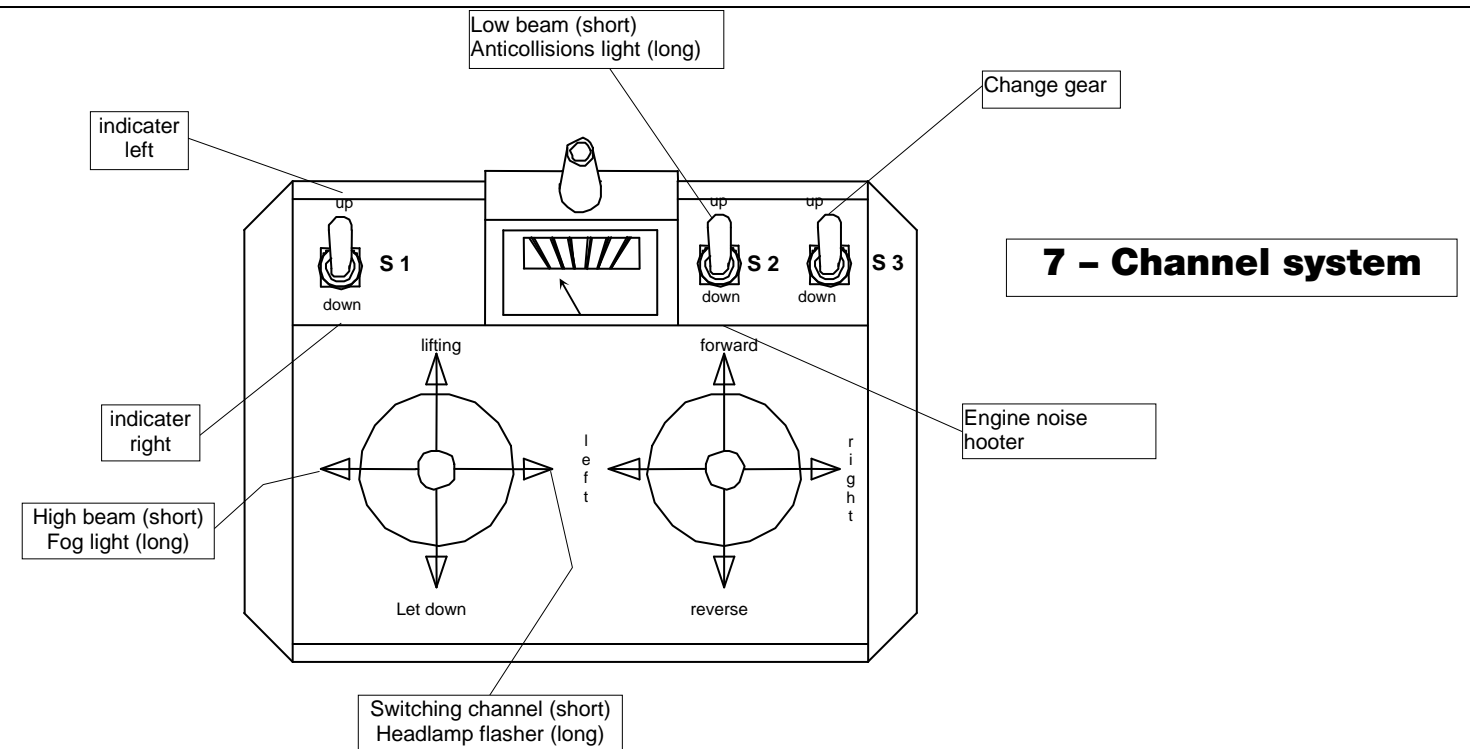
After switching first make a functional test. In particular the functions are shown by lamp-signals:

- Switch 1 = 3 x blinker right
- Switch 2 = 3 x blinker left
- Switch 3 = 3 x low beam

### Adjustment and funktion of the control circuit board for decoder systems



### Assignment of the switch channels



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## General

This hydraulic system is offered by WEDICO especially for **Dumper CATERPILLAR 740, Art.-No. 3110**. It allows to operate the functions lifting and lowering of the trunk as well as steering to the left and to the right. The set consists of a hydraulic pump with oil filter and a 2-fold control valve.

## Hydraulic pump

The hydraulic pump consists of a driving motor, the pump with pressure control unit, and a tank. The red marked connection of the motor is the positive pole.

You find two connecting points on the pump body: The connecting point "P" supplies the pressure oil, while the connecting point "T" leads the oil back again to the tank.

The connecting points you find on the proper tank unit serve for the aeration and to fill the oil. Through the PVC cover you may control the oil level.

## Oil filter

The oil filter serves for the necessary cleansing of the oil. In order to clean the filter itself, unscrew the six screws on the cover, and take out the sinter cartridge. Use cleansing benzine to clean the sinter cartridge from residue.

Please pay attention to the O-rings when re-assembling the unit!

## Control valve block

The control valve block includes the following connections: The connection "P" is connected via the oil filter to the pump and leads the pressure oil. The connection "T" is joined with the connection "T" of the pump; over that, the back running oil reaches again to the hydraulic tank. One pair of connections "A" plus "B" is provided for each control function; it is the cylinders which are connected to these points.

## Fixing the hose

First slide a retaining bushing onto the hose end. Afterwards press the hose end by approx. 2/3 over the nipple, and then the retaining bushing over that. At the same time slide the hose onto the nipple until it catches.

## Hose guidance

**Important:** Do not interchange the connections „P“ and „T“, as this will cause leakage and malfunctions!

Connect the connection „P“ of the pump to the oil filter. Connect the oil filter gate to the connection „P“ of the control valve block, and the connection "T" of the control valve block to the connection "T" of the pump. For all these purposes use the hose with the bigger opening outlet (H058). The pressure-free runback hose does not need a retaining bushing!

Connect the connecting points „A“ and „B“ with the cylinders. For the connection of the steering cylinders use the hose with the smaller opening (H052), and then connect the hoses crosswise to the nipples of the steering cylinders.

## Starting the Hydraulics

**Note:** Should one of the knurled screws belonging to the control valve block become lost (e.g. on the transport), the "zero" position of the valve has to be re-adjusted. For this purpose, start the control valve (without servo) with the connected cylinders and with the pump. When adjusting the eccentric, make sure that the cylinders will stop in the center position (half-way extended). The zero-position you have determined by this method has then to be fixed with the knurled screw. If yet not done, connect the hydraulic servos to your remote-control equipment. Fill the tank of the hydraulic pump with hydraulic oil. For this purpose, never use any other oil type than the special one we put on offer.

For the initial start, connect the pump to a voltage of approx. 6 to 8 volts. On less voltage the pump will not work with full power, which on the other hand will keep power and speed of the oil flow at lower level. This slower inlet of the oil-air mix from the cylinders into the tank avoids eventual foaming of the oil. Refill the tank as often as necessary to get all cylinders filled. Alternately, please activate all single functions until the complete equipment becomes filled (de-aerate). At least, the tank itself should be half-filled. Now, the equipment is ready to run and can be operated with full 12 volts power. Please control the oil level in the tank.

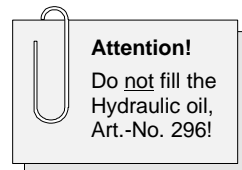
## Oil change

On standard use, we recommend to control the oil after approx. six months. Change the oil as soon as it becomes soiled (very dark). By turning and pushing, take the tank off the pump. Empty the tank and, with help of cleansing benzine, wash the tank. Once you have re-attached the tank onto the pump you can refill it with hydraulic oil. Start the equipment and get all cylinders moved for several times. Afterwards, once again change the oil in the pump tank. Repeat this procedure until the oil in the tank remains clean. Please remind that also the filter inset will have to be cleaned respectively changed.

**Used oil:** For managing the waste, please ask either your gasoline station or a specialized delivery point for used oil.

## Painting the cylinders

If you wish to paint your hydraulic cylinders in a different colour, please make absolutely sure that neither dissolver, nor paint can run into the cylinders. This would damage the gaskets and allow the oil to run out of the cylinders. Therefore, at the cylinder mouth provided for the piston rod, carefully close the mouth with adhesive tape. Non-observance of this note will cause termination of any guarantee!



## Safety regulations

Prior to supply, all components belonging to this hydraulics are proved in terms of safety regulations and are supplied in perfect condition. In order keep this perfect state, please note as follows:

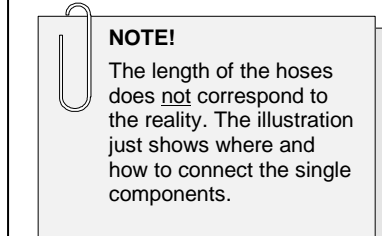
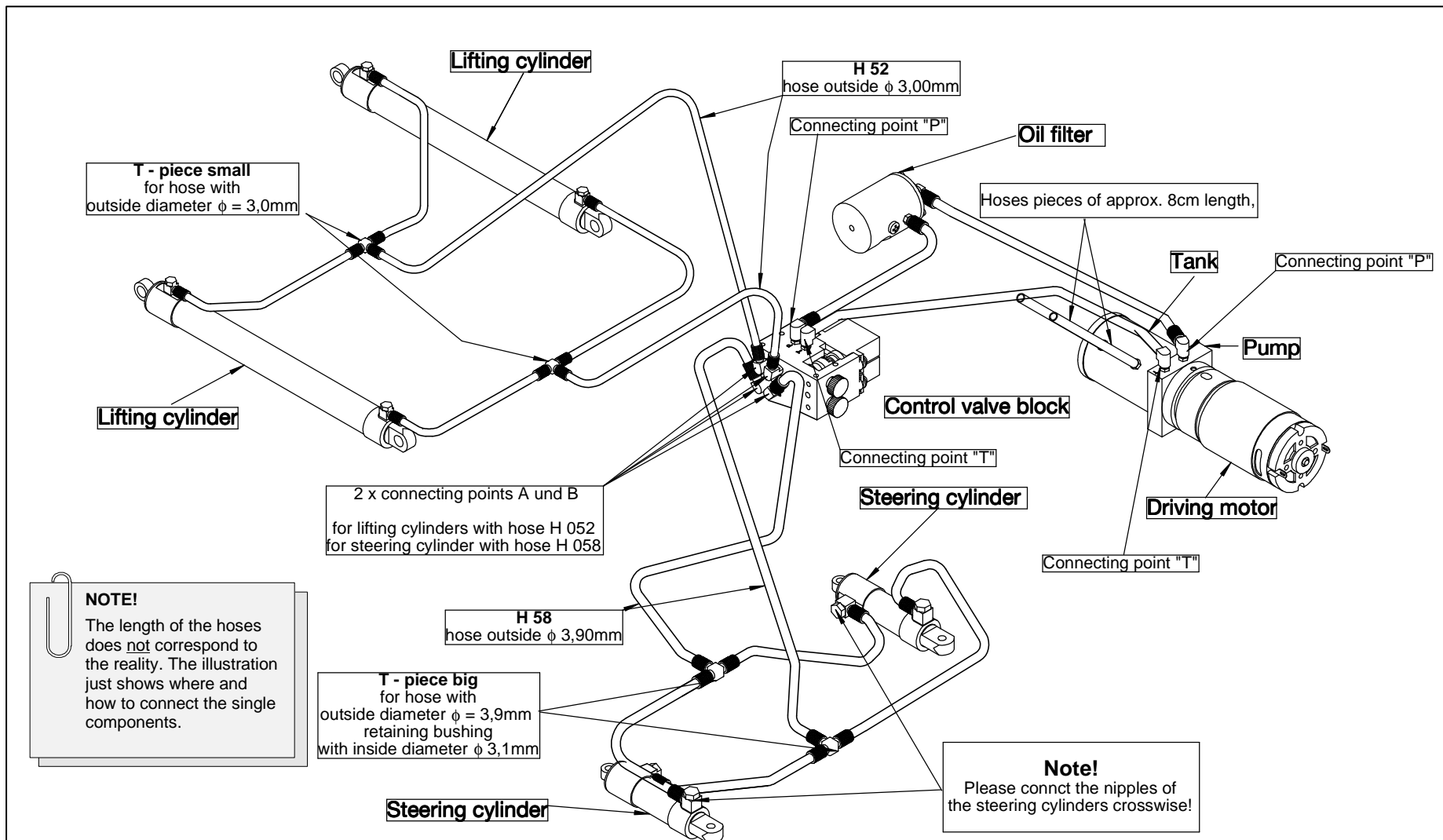
- The hydraulic components have been constructed exceptionally for modelling use, and may serve for this purpose only.
- Carefully note the technical data! The max. operating pressure of 12bar may not exceed, and the nominal voltage of the motor has strictly to be kept.
- No other oil type may be used than the special hydraulic oil which is included in this set of hydraulics.
- It is not allowed to use the equipment in an area surrounded by dust, gas or steam.
- Any necessary type of repair may be executed by the manufacturer only!
- All hydraulic components have absolutely to be kept away from small children!
- Starting and operating of the hydraulic system by minors may be executed under supervision of a legal guardian only. Although manufactured at reduced scale, with working mechanics this hydraulic system for model makers produces remarkable power. These forces may cause considerable contusions on ones limbs.



## Parts list of the package:

Qty.	Assembly part	EDP-No.
1	Oil filter .....	29878
1	Bottle of Hydraulic oil, 0.25l .....	29936
12	Retaining bushing, small (H022).....	29954
10	Retaining bushing, big (H021) .....	29956
2	T-piece, small (H016) .....	29958
2	T-piece, big (H017) .....	29960
1	Control valve block DUMPER.....	31046
1	Steering cylinder right .....	31052
1	Steering cylinder left .....	31054
2	Lifting cylinder .....	31056
6	Retaining bushing, big (H021) .....	31092
1	Hydraulic pump 12V , with cable and switch.....	31058
1	Hose (H052) 2,00m .....	31146
1	Hose (H058) 2,00m .....	31148

*please use EDP-number when ordering spare parts*



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