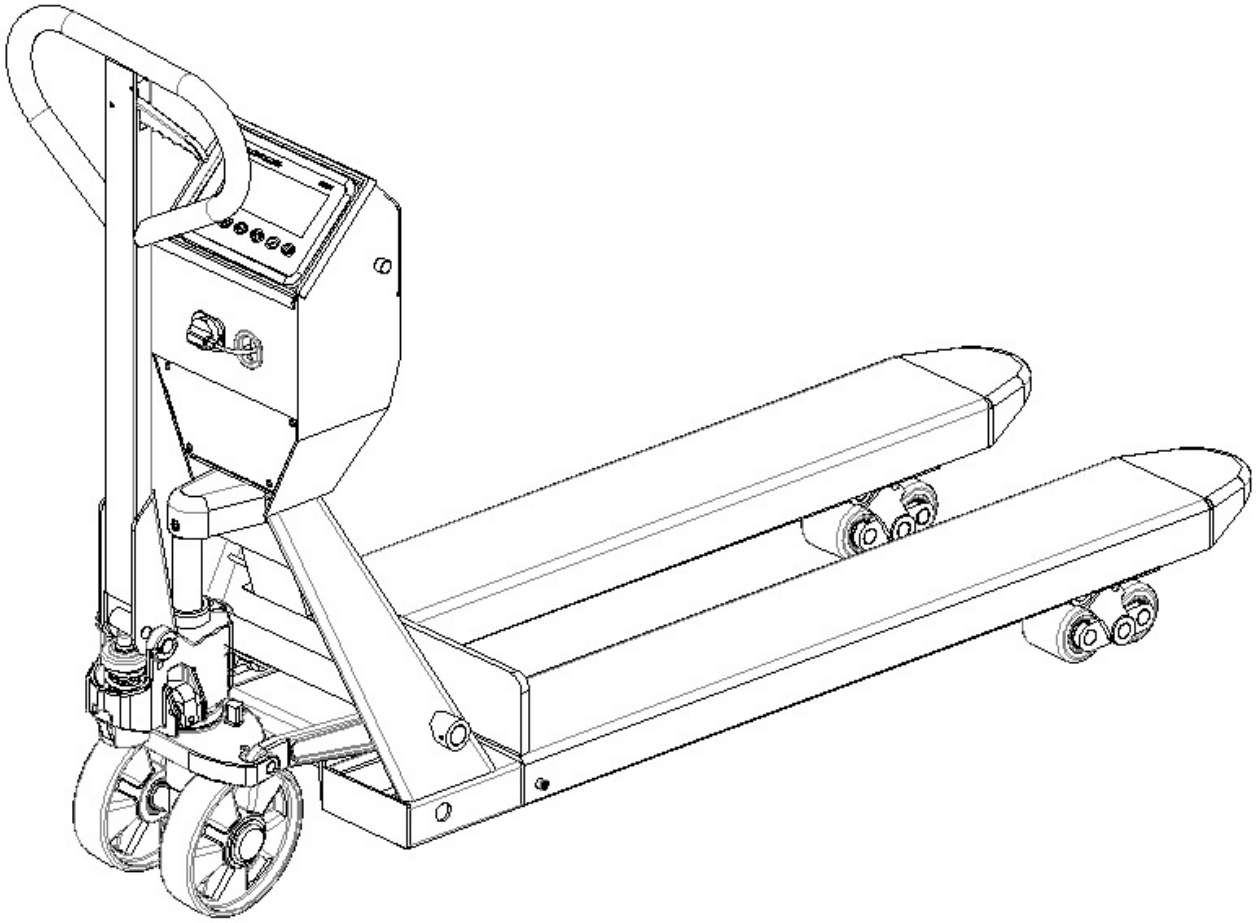
Operating Instructions

Parts List



Pallet Truck with Scale SAC20

Note: Operator MUST read and understand this operating instructions before use this Hand Pallet Truck.

Thank you for using our pallet truck with Scale. Your pallet truck with Scale is made of high quality steel and is designed for the horizontal lifting and transport of loads on a pallet or standardized containers on a level, fixed base. For your safety and correct operation, please carefully read this instruction and the display unit handbook (METTLER TOLEDO) “IND231 **Industry Terminal User/Service Manual**” before using it.

NOTE: All of the information reported herein is based on data available at the moment of printing. We reserves the right to modify our own products at any moment without notice and incurring in any sanction. So, it is suggested to always verify possible updates.

1. GENERAL SPECIFICATIONS

Capacity	Kg/Lbs	2000kg (4400Lbs)
Fork Height Raised	mm/in.	200MM(7-7/8”) or 190mm(7-3/8”)
Fork Height Lowered	mm/in.	85mm(3-1/3”) 76mm(3”)
Fork Length	mm/in.	1150mm(45”) or 1220mm(48”)
Width Across Forks	mm/in.	572mm(22-1/2”) or 692mm(27-1/4”)
Individual Fork Width	mm/in.	182mm (7-9/32”)
Roller Size	mm/in.	Ø 74mm(2-29/32”) or Ø 64mm(2-1/2”) x 70mm(2-3/4”)
Mail Wheel Size	mm/in.	Ø180mmx50mm(7-1/4 x 2”)
Environment		General purpose, dry
Operating temperature		-10°C to 40°C (14°F to 104°F) with 10 to 95% relative humidity

2. PRE-OPERATION PROCEDURE

2.1 Attaching the display unit(247)

A) Remove 4pcs screws(247-2) , take away the cover board (247-1).
B) Remove 4pcs screws (248B) from the head of the fork frame(W201A).
C) Set the fixation box (247) onto the head of pallet truck with your one hand, and the other hand tighten the screws (248B).
D) Connect the “D-Sub Male connector “ and the “D-Sub Female connector” together.
E) Close the cover board (247-1), then tighten the screws (247-2).

The display unit is now fixed.

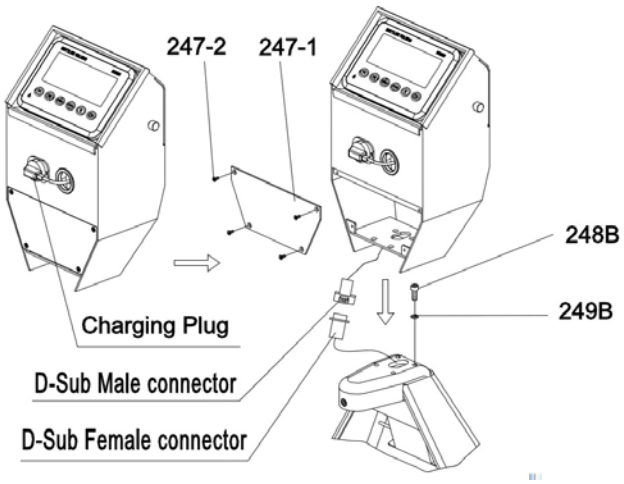


Fig. 1

2.2 To attach draw-bar to pump unit

When attaching the handle, you had better squat just behind the pallet truck. Then you:

2.2.1 Insert the draw-bar onto the pump piston (303)**,** then use a hammer to insert the axle with hole (G105) into the hydraulic pump and draw-bar **from the right to left.** (See fig. 2).

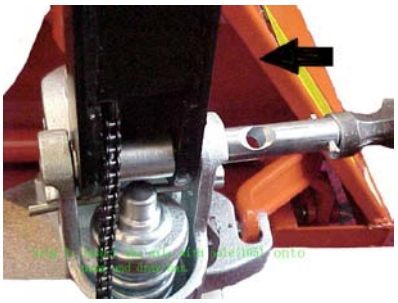


Fig. 2

2.2.2 Let control handle(G117) to the ‘**LOWER**’ position, then pass

the adjusting nut(G104), adjusting bolt(G103) and chain(G102) through the hole of axle(G105) with your hand (See fig. 3).

2.2.3 Press the draw-bar (G110) down, take away the pin which fix the Spring Cap(301).

2.2.4 Let the control handle (G117) on '**RAISE**' position, then raise the lever plate (319) with the pin and insert the adjusting bolt(G103) into the front slot of lever plate (319), note to keep the adjusting nut (G104) on the under side of the lever plate.

2.2.5 Use a hammer to tap another elastic pin (G106) into the axle with hole (G105).
The draw-bar is now assembled to the pump.

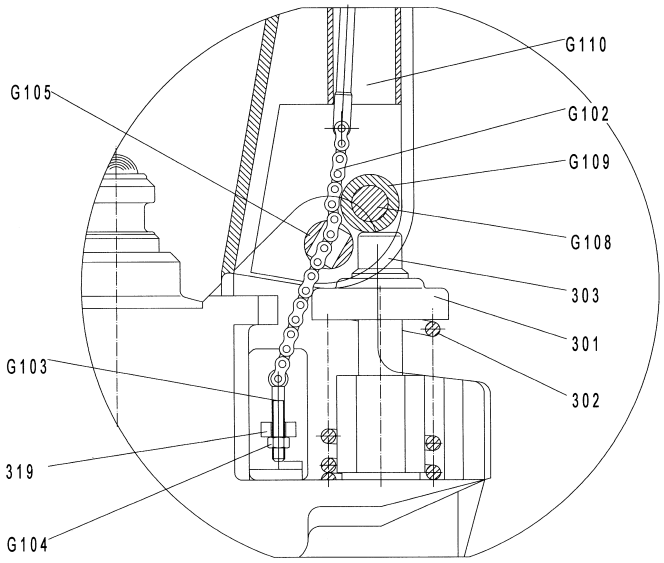


Fig. 3

3. TO ADJUST RELEASE DEVICE

On the draw-bar of this pallet truck, you can find the control handle(G117) which can be regulated in three positions :

Raise -handle down
Drive position -handle in center position
Lower -handle up, the lever moves back the drive position when released.

If however they have been changed, you can adjust according to following step:

3.1 If the forks elevate while pumping in the **DRIVE** position, turn the adjusting nut (G104) on the adjusting bolt(G103) or screw(318) clockwise until pumping action does not raise the forks and the **DRIVE** position functions properly.

3.2 If the forks descend while pumping in the **DRIVE** position, turn the nut(G104) or screw(318) counter-clockwise until the forks do not lower.

3.3 If the forks do not descent when the control handle (G117) is in the **LOWER** position, turn the nut(G104) or screw (318) clockwise until raising the control handle(G117) lowers the forks. Then check the **DRIVE** position according to item 3.1 and 3.2 to be sure the nut (G104) and screw(318) is in the proper position.

3.4 If the forks do not elevate while pumping in the **RAISE** position, turn the nut (G104) or screw (318) counter-clockwise until the forks elevate while pumping in the **RAISE** position. Then check the **LOWER** and **DRIVE** position according to item 3.1, 3.2 and item 3.3.

4. MAINTENANCE

The pallet truck is largely maintenance-free.

4.1 OIL

Please check the oil level every six months. The oil can be hydraulic oil: ISO VG32, its viscosity should be 30cSt at 40^0 C, total volume is about 0.4lt.

4.2 TO BANISH THE AIR

The air may come into the hydraulic oil because of transportation or pump in upset position. It can cause that the forks do not elevate while pumping in the **RAISE** position. The air can been removed in the following way: let the control handle (G117) on the **LOWER** position, then move the draw-bar up and down for several times.

4.3 DAILY CHECK AND MAINTENANCE

Daily check of the pallet truck can limit wear as much as possible. Special attention should be paid to the wheels, the axles, as thread, rags, etc. It may block the wheels. The forks should be unloaded and lowered in the lowest position when the job is over.

4.4 LUBRICATION

All bearings and shafts are provided with long-life grease at the factory. You only need provide with long-life grease at monthly intervals or after each time the truck is cleaned thoroughly to the lubrication points.

4.5 MAINTENANCE OF DISPLAY UNIT

See **METTLER TOLEDO "IND231 Industry Terminal User/Service Manual**".

5 GUIDE TO SAFETY OPERATION

5.1 Disconnect all power to the pallet truck with scale before installing, servicing, cleaning or removing the fuse. Failure to do so could result in bodily harm and/or property damage.

5.2 To pull the truck, always move the control handle into the drive position. This makes the draw-bar easier to move and depressurizes the pump section of the hydraulics. This preserves the hydraulic seals and the valve components. A long service life can be expected.

5.3 Operator should read all warning signs and instructions here and on the pallet truck before using this truck with scale.

5.4 Do not operate a pallet truck with scale unless you are familiar with it and have been trained or authorized to do so.

5.5 Do not operate a pallet truck unless you have checked its condition. Give special attention to the wheels, the draw-bar unit, the fork unit, the lever plate, etc.

5.6 Do not use on a slopping ground.

5.7 Do not take up any people on the pallet truck when moving.

5.8 The operator had better take on gloves for labor protecting.

5.9 When the goods have been transported, all people should be away from the forks for 600mm.

5.10 Do not load goods like fig. 5/B, the barycenter of the goods should be on the midline of pallet truck with scale.

5.11 Do not load over maximum capacity.

5.12 At others special condition or place, the operator should be carefully to operate the pallet truck.

6. TROUBLES SHOOTING

No	Trouble	Clause	Fixing Methods
1	The forks can not be up the max. height.	-The hydraulic oil is not enough.	-Pour in the oil.
2	The forks can not be lifted up.	-Without hydraulic oil. -The oil has impurities. -The nut (G104) is too high, keep the pumping valve open. -Air come into the hydraulic oil.	-Fill in the oil. -Change the oil. -Adjust the nut(G104) or screw (318) (see item 3.4) -Banish the air.(see item 4.2)
3	The forks can not be descended.	-The piston rod(328) or pump body(322B) is deformed resulting from partial loading slanting to one side or over-loading. -The fork was kept in the high position for long time with piston rod bared to arise in rusting and jamming of the rod. -The adjusting nut (G104) or screw (318) is not in correct position.	-Replace the piston rod (328) or pump body (322B). -Keeping the fork in the lowest position if not using, and pay more attention to lubricate the rod. -Adjust the nut (G104) or screw (318) (see item 3.3)
4	Leaks	-Sealing parts worn or damaged. -Some part cracked or worn into small.	-Replace with the new one. -Replace with the new one.
5	The fork descends without the release valve worked.	-The impurities in the oil cause the release valve to be unable to close tight. -Some parts of hydraulic system is cracked or bored. -Air come into the oil. -Sealing parts worn or damaged. -The adjusting nut (G104) or screw (318) is not in the correct position.	-Replace with new oil. -Inspect and replace the waste parts. -Banish the air. (See item 4.2) -Replace with the new one. -Adjusting the nut (G104) or screw (318). (See item 3.2)
6	The result of scale is incorrect.	-The bolts (G225B) scrape the platform (G226B) -The platform scrapes the fork (G201B)	-Adjust the bolts (G225B) -Face lifting the platform.
7	Nothing is displayed by the terminal.	-The battery power is too lower.	-Replace with new one.
8	Appear error cods:E1, E2, E3…..	See **METTLER TOLEDO "IND231 Industry Terminal User/Service Manual"**	

NOTE: DO NOT ATTEMP TO REPAIR THE PALLET TRUCK UNLESS YOU ARE TRAINED AND AUTHORIZED TO DO SO.

7. WEIGHING OPERATION

7.1 Preparation: Put the control lever in the **LOWER** position and lower the truck to lowest position.

7.2 Press the "Print" Key until the backlight on. After the indicator being checked by itself，it display "0Kg".

7.3 Weighing method for gross weight: Put the forks under pallet and judge by eyes it will be balanced load. Put the control handle in the **Lower** position, pump the handle to make the fork be raised until you can make sure the pallet leave ground. The stable reading of the indictor is the gross weight of the goods (total weight of the pallet and the goods).

7.4 Net weight weighing method: To weigh the goods packed in the same type standard pallet, please operate as following:

7.4.1 Weigh single standard pallet, for example: weight of pallet: 40Kg.

7.4.2 Press the key of "TARE", then the indicator display "0kg".

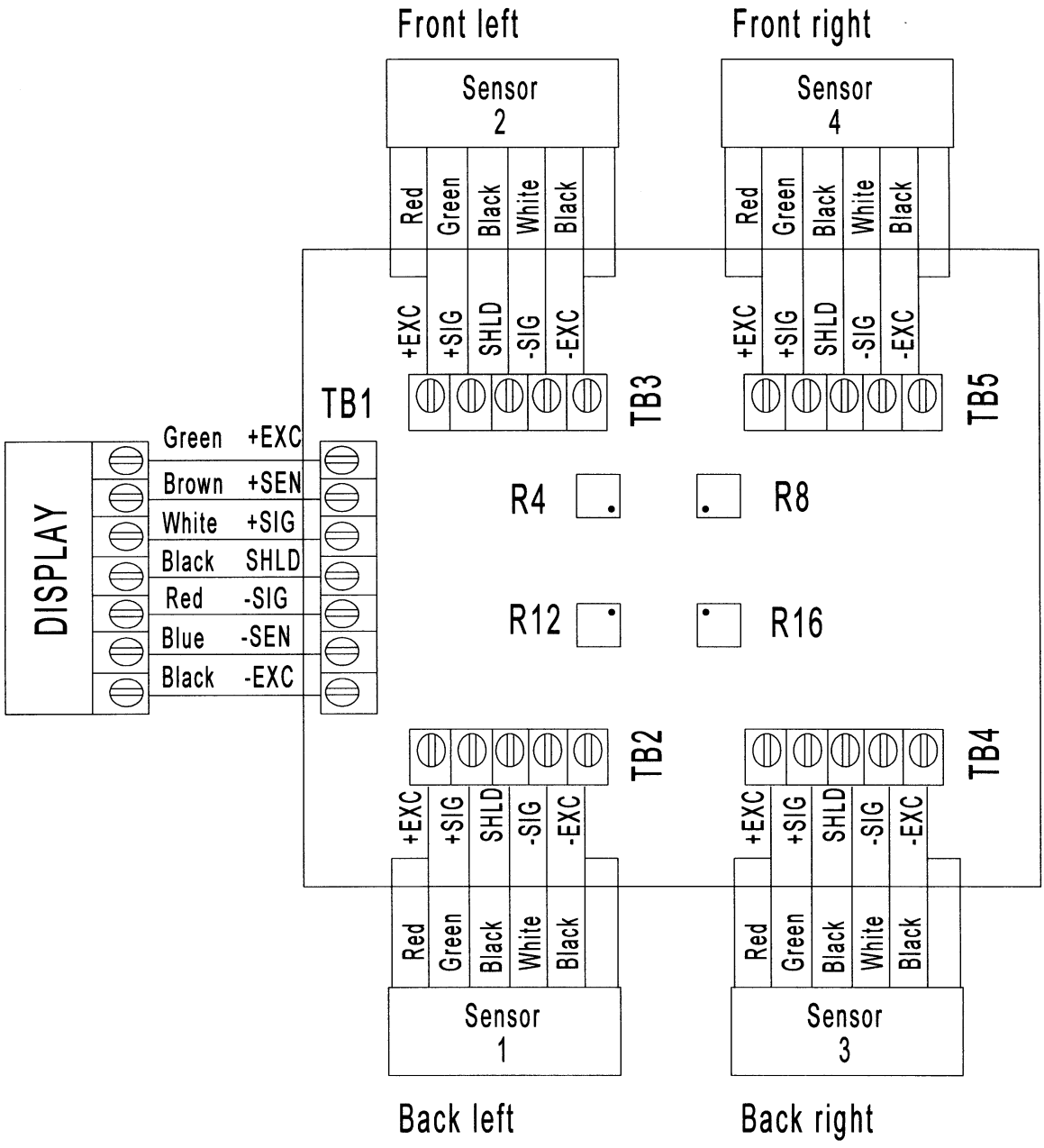
7.4.3 Remove the pallet from the fork, then the indicator display "-40kg".

7.4.4 Weigh the palletized goods according the method of 7.3, the stable reading of the indicator is the net weigh of the goods.

7.5 The Switch of kilogram and pound. When the reading of indicator is in unit of kilogram, press the key of “FUNCTION”, the unit of reading switch to pound. Press the key of “FUNCTION” again, the unit of reading switch to kilogram again.

7.6 Turn off the Indicator: When the Indicator works normally, press the key of “PRINT” until the Indicator display “OFF”. Loosen the key will turn off the Indicator.

8. Wiring diagram of scale, junction box, sensor



Note: Adjust corresponding relation

R12 Adjust Sensor 1
R4 Adjust Sensor 2
R16 Adjust Sensor 3
R8 Adjust Sensor 4

Fig. 4

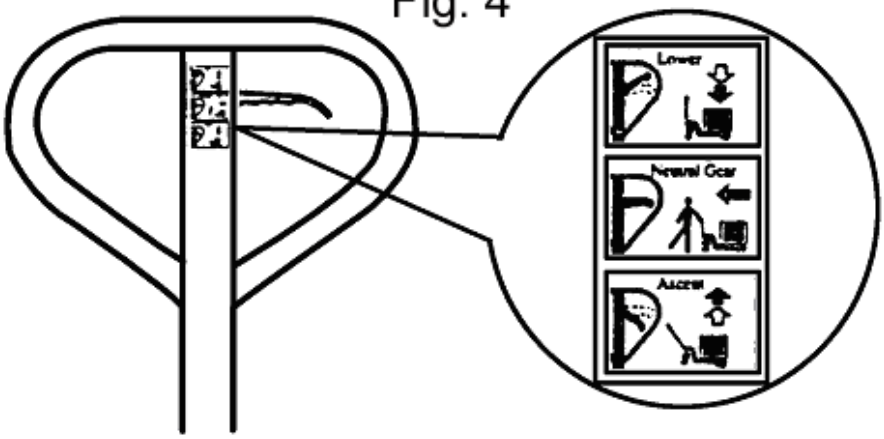
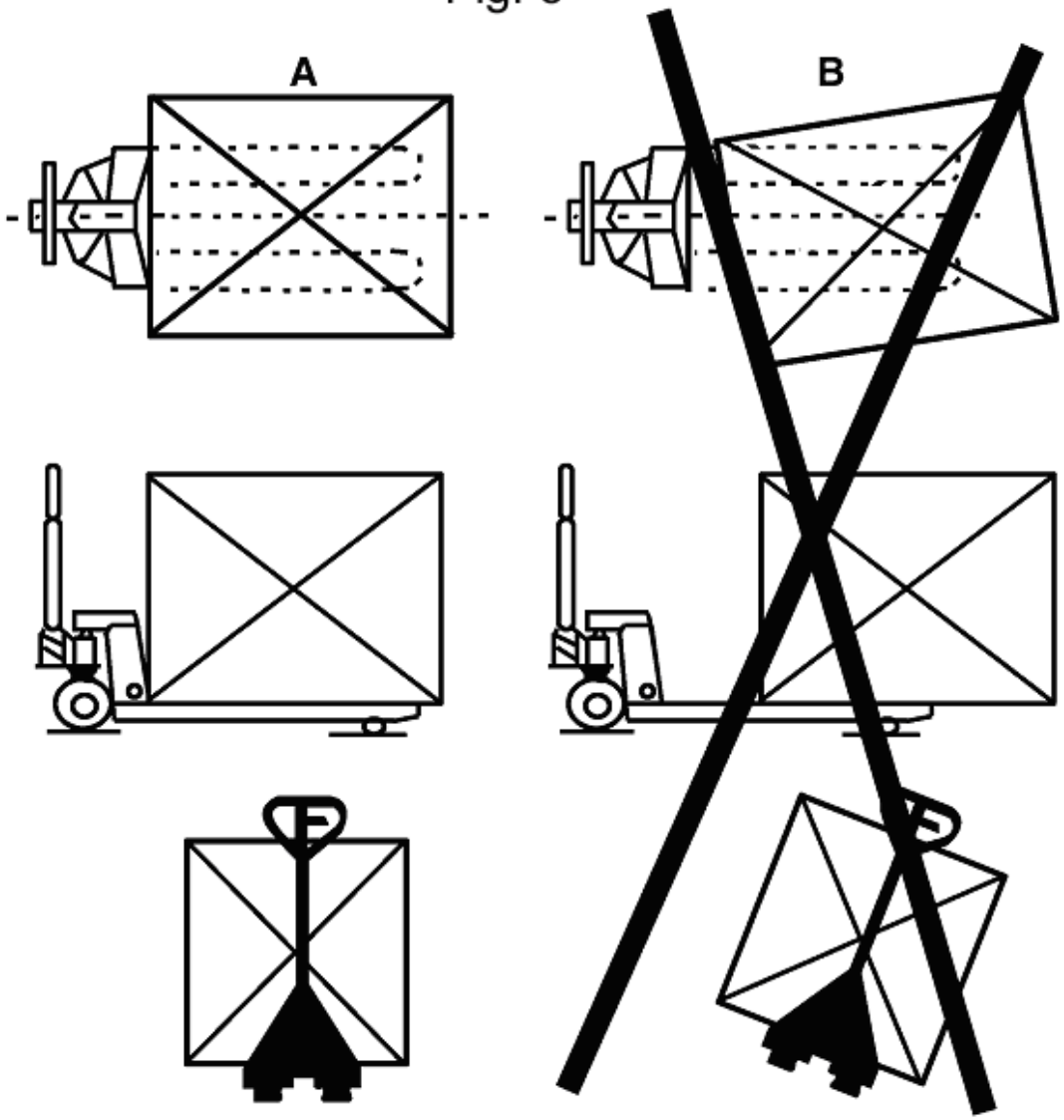
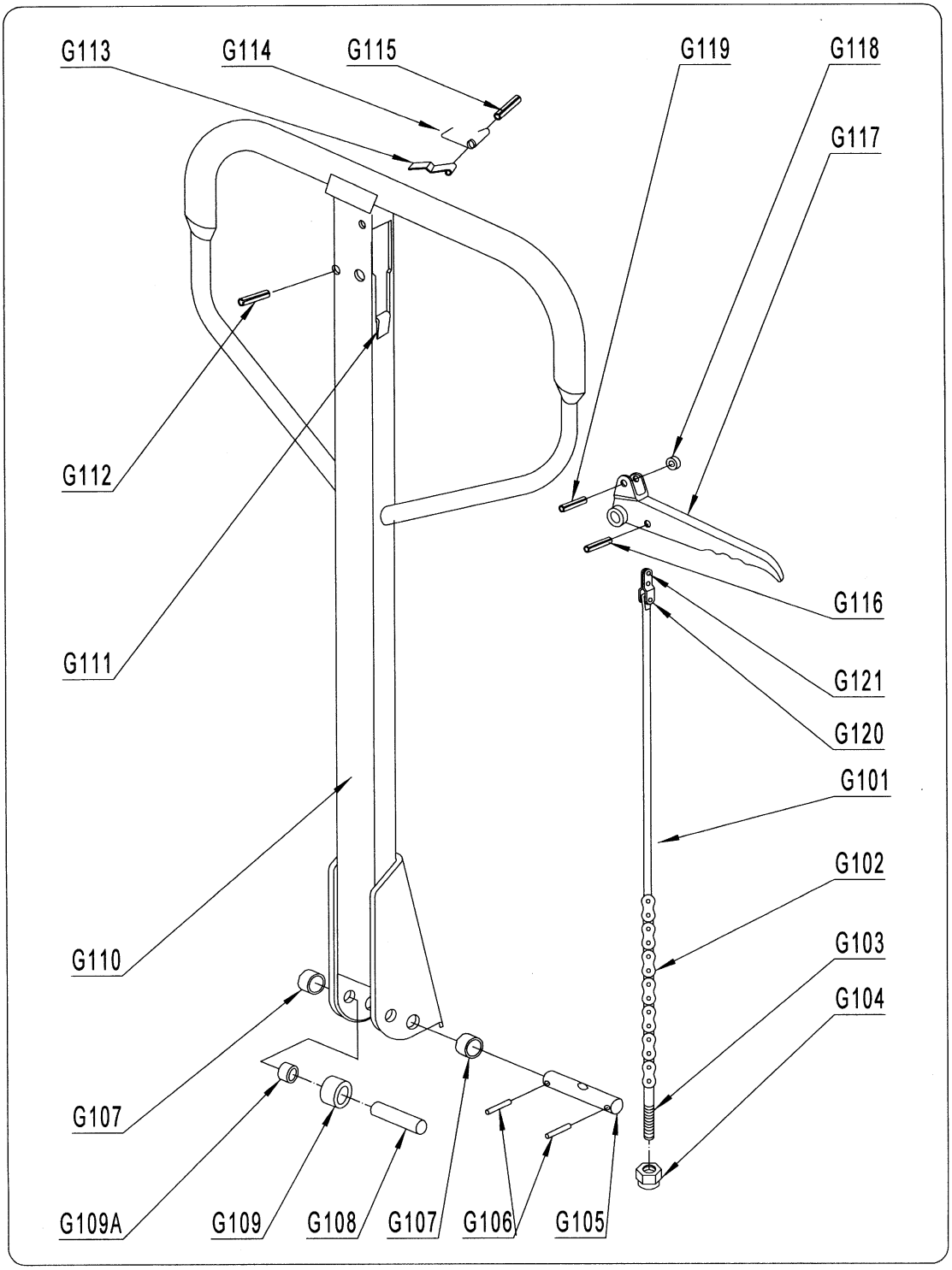


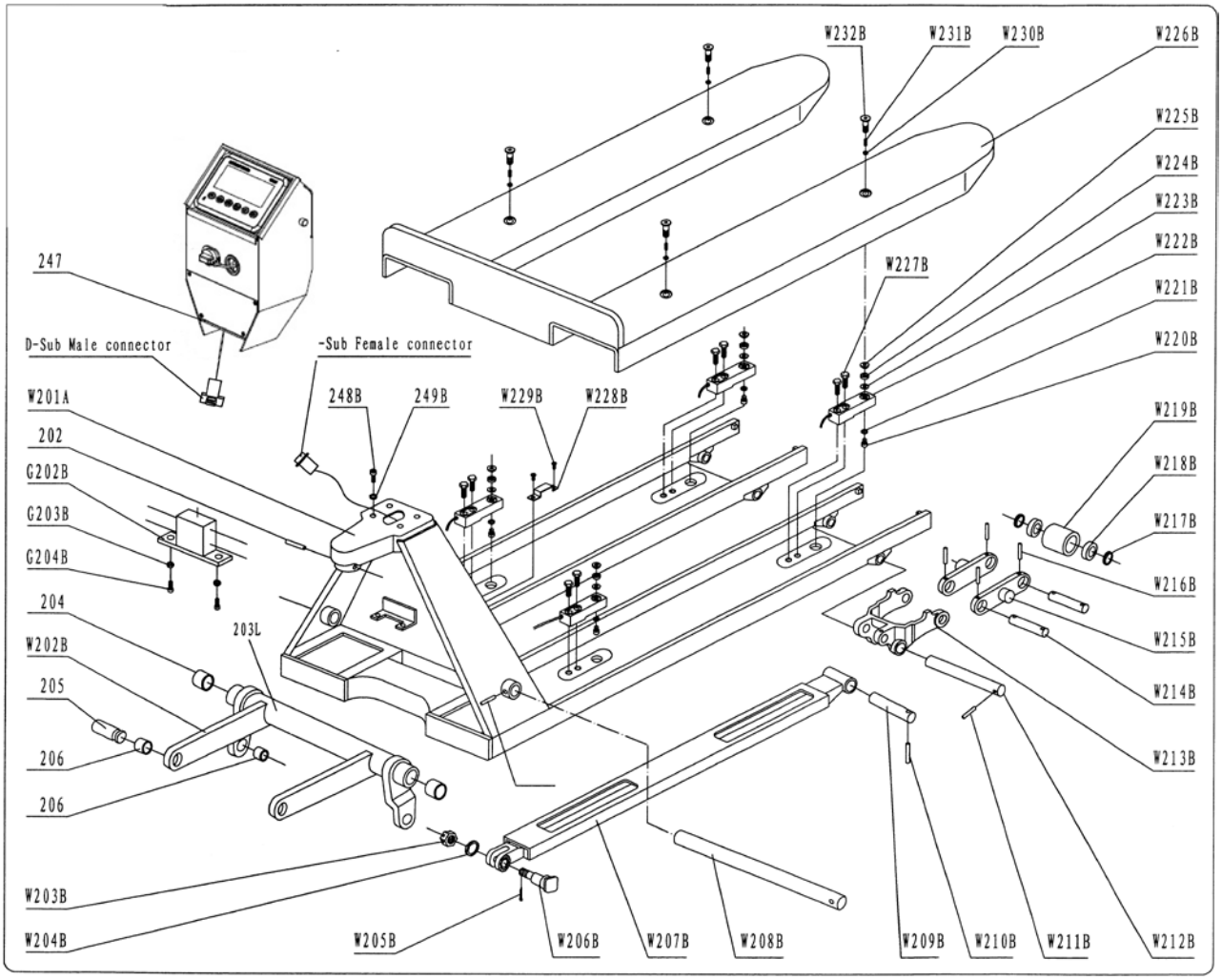
Fig. 5





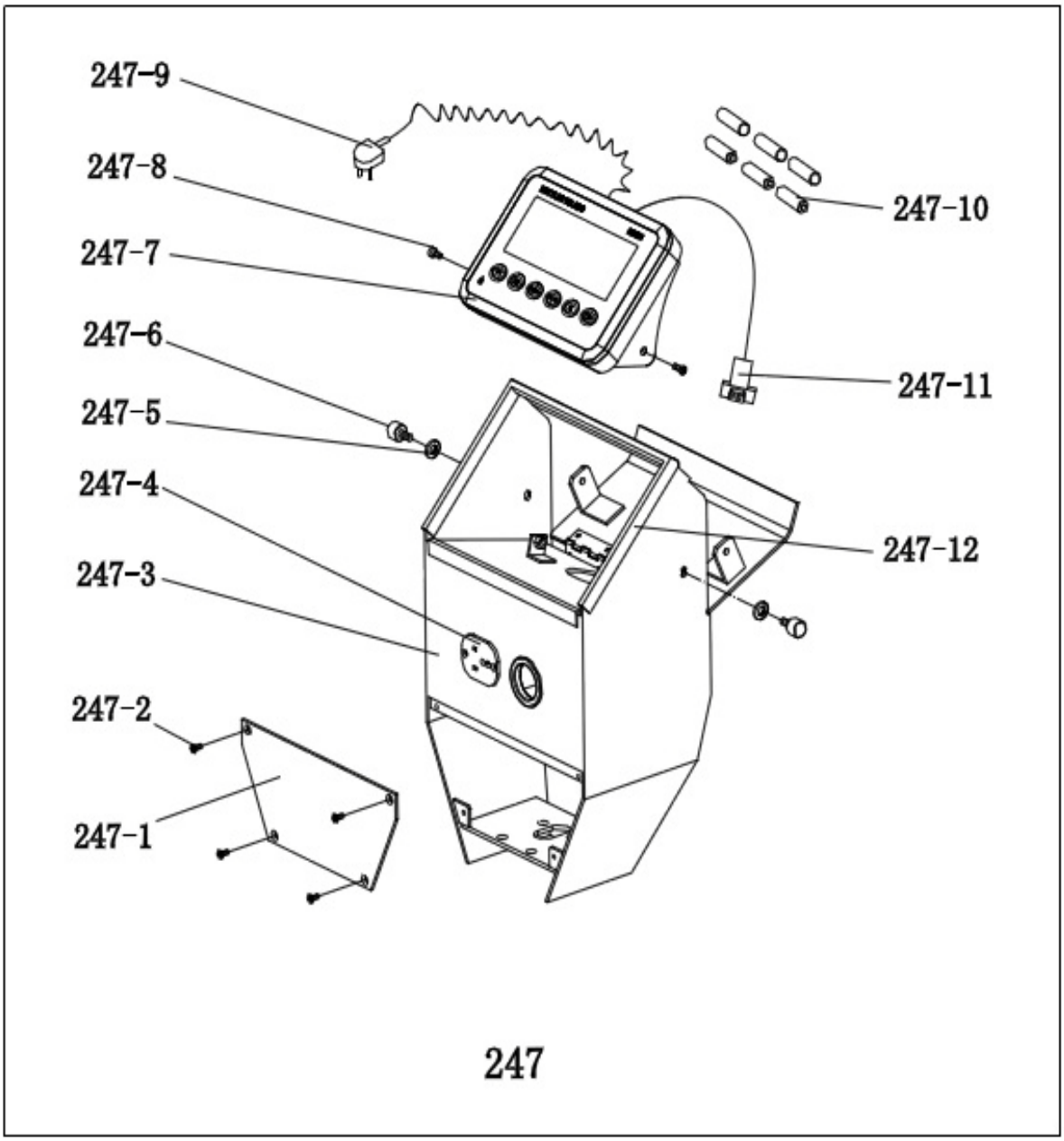
No.	Description	Qty.	No.	Description	Qty.
G101	Release Rod	1	G111	Stop Rubber	1
G102	Chain	1	G112	Elastic Pin	1
G103	Adjusting Bolt	1	G113	Blade Spring	1
G104	Adjusting Nut	1	G114	Spring	1
G105	Axle with Hole	1	G115	Elastic Pin	1
G106	Elastic Pin	2	G116	Elastic Pin	1
G107	Bushing	2	G117	Control Handle	1
G108	Roller Pin	1	G118	Roller	1
G109	Pressure Roller	1	G119	Elastic Pin	1
G109A	Bushing	1	G120	Pin	1
G110	Draw-bar	1	G121	Pull Board	1

Fork Frame Unit



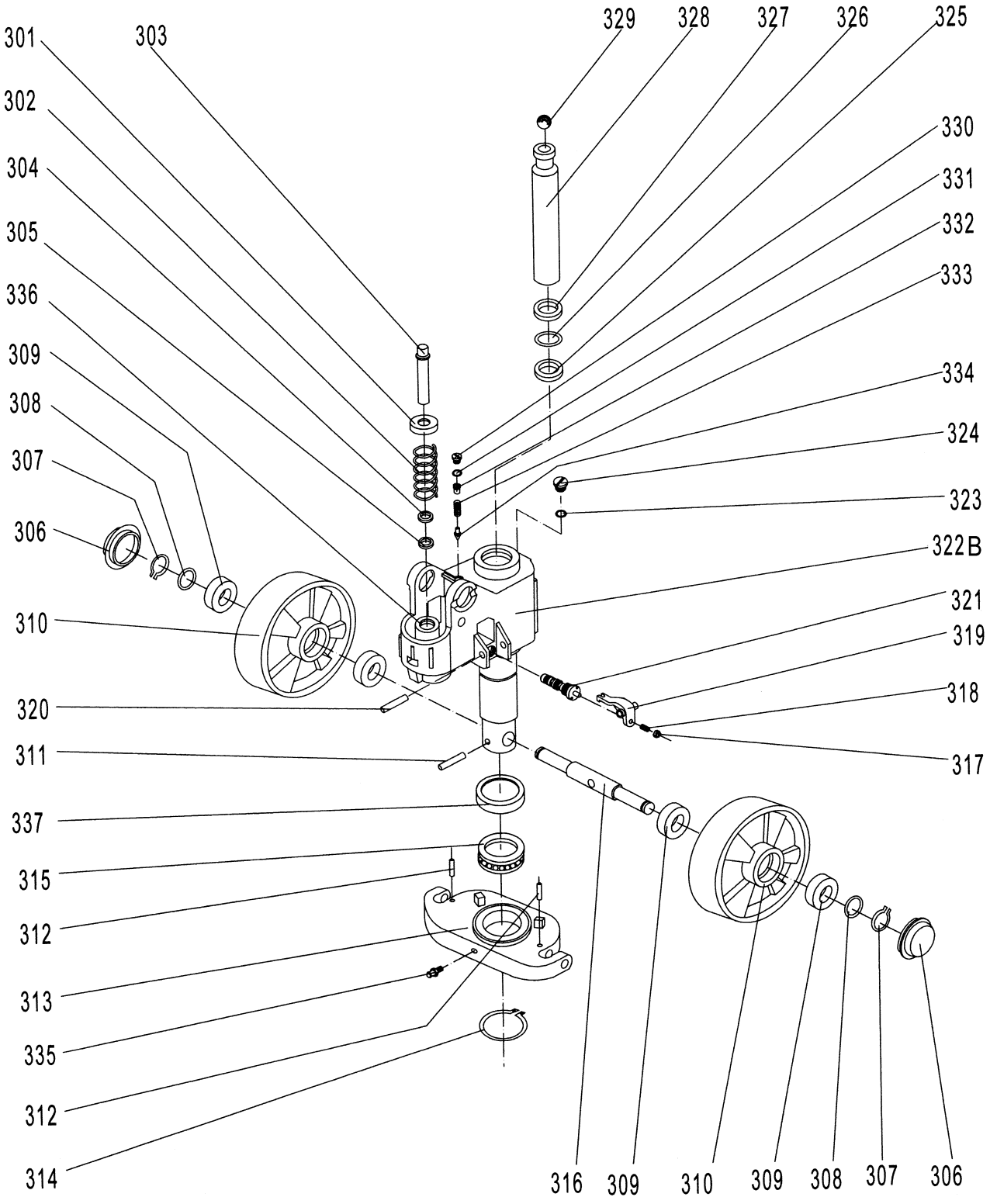
No.	Description	Qty.	No.	Description	Qty.
202	Elastic Pin	1	W212B	Shaft	2
204	Bushing	2	W213B	Frame of Roller	2
205	Shaft	2	W214B	Axle for Roller	4
206	Bushing	4	W215B	Linking Plate	4
G202B	Box of Cable	1	W216B	Elastic Pin	8
G203B	Elastic Washer	2	W217B	Washer	8
G204B	Screw	2	W218B	Bearing	8
247	Display Unit	1	W219B	Loading Roller	4
248B	Screw	4	W220B	Screw	4
249B	Elastic Washer	4	W221B	Elastic Washer	4
W201A	Fork Frame	1	W222B	Load Cell	4
W202B	Rock - Arm	1	W223B	Washer	4
W203B	Nut	2	W224B	Washer, underside	4
W204B	Washer	2	W225B	Washer, upper	4
W205B	Spilt Pin	2	W226B	Platform	1
W206B	Bolt	2	W227B	Bolt	8
W207B	Pushing Rod	2	W228B	Clamp for cable	2
W208B	Long Shaft	1	W229B	Screw	4
W209B	Shaft	2	W230B	Nut	4
W210B	Elastic Pin	2	W231B	Screw	4
W211B	Elastic Pin	2	W232B	Bolt	4

Display Unit



No.	Description	Qty.	No.	Description	Qty.
247-1	Cover Plate	1	247-7	Display Unit	1
247-2	Screw	4	247-8	Bolt	2
247-3	Indicator Case	1	247-9	charge Plug	1
247-4	socket	1	247-10	Battery	1
247-5	Rubber Washer	2	247-11	Plug	1
247-6	Round Screw	2	247-12	Rubber	1

Hydraulic Pump Unit



Hydraulic Pump Unit

No.	Description	Quantity	Remark
301	Spring Cap	1	
302	Spring	1	
303	Pump Piston	1	
304	Dust Ring	1	
305	Seal	1	
306	Dust Cover	2	
307	Locking Ring	2	
308	Washer	2	
309	Bearing	4	
310	Loading Wheel	2	
311	Elastic Pin	1	
312	Elastic Pin	2	
313	Thrust Plate	1	
314	Retaining Ring	1	
315	Bearing	1	
316	Shaft of loading Wheel	1	
317	Nut	1	
318	Screw	1	
319	Lever Plate	1	
320	Elastic Pin	1	
321	Valve Cartridge	1	
322B	Pump Body	1	
323	Seal Washer	1	
324	Screw Plug	1	
325	Seal	1	
326	O – Ring	1	
327	Dust Ring	1	
328	Piston Rod	1	
329	Steel Ball	1	
330	Screw Plug	1	
331	O - Ring	1	
332	Bolt	1	
333	Spring	1	
334	Spindle of Safety Valve	1	
335	Grease Cup	1	
336	Cylinder	1	
337	Cover of Bearing	1	