Instruction Manual

Pallet Truck with Scale

Note: Owner/Operator must read and understand this instruction manual before using the pallet truck with scale

Rev B 01/07

Thank you for using this hand pallet truck with scale. For your safety and correct operation, please carefully read this instruction before using it.

NOTE: (1) All of the information reported herein is based on data available at the moment of printing. The factory reserves the right to modify its own products at any moment without notice and incurring in any sanction. So it is suggested to always verify possible updates.

(2) Prior to use this hand pallet truck with scale, the battery of scale must be charged enough.

1. General Specifications

Model	Capacity	Weighing Accuracy	Fork size			Net weight
			Length	Width over forks	Fork Width	
EPW20S	2000kg	±1‰	1150mm	555mm	180mm	124kg
EPW20L	2000kg	±1‰	1150mm	690mm	180mm	128kg

Materials and specification are subject to change without notice.

2. To Attach Handle to Pump Unit

2.1 Loosen the setting screw (140H) on the crank link (139H).

2.2 Remove three screws (H109) and three spring washers (H110) from the base (103).

2.3 Place the handle (H101) on the base (103), please note: Feed the rod and chain (H107) through the centre of the base (103) and axle (109).

2.4 Insert three screws (H109) with spring washers (H110) into the base (103). Then tighten them securely.

2.5 Raise the crank link (139H) and put the pin on rod and chain (H107) into the groove of crank link (139H).

3. To Adjust Release Device

On the handle of the pallet truck, you will find the control lever (H106) which can be set in three positions (See Fig. 1):

LOWER=to lower the forks; NEUTRAL=to move the load; ASCENT=to raise the forks.

After assembling the handle, you can adjust the three positions.

3.1 First tighten the setting screw (140H) on the crank link (139H) until the LOWER position function works.

3.2 If the forks elevate while pumping in the NEUTRAL position, turn the setting screw (140H) clockwise until pumping the handle does not raise the forks and the

NEUTRAL position functions correctly.

3.3 If the forks descend while pumping in the NEUTRAL position, turn the setting screw (140H) counter-clockwise until the forks do not lower.

3.4 If the forks do not descend when the control lever (H106) is in the LOWER position, turn the setting screw (140H) clockwise until raising the control lever (H106) lowers the forks. Then check the NEUTRAL position as per item 3.2 and 3.3.

3.5 If the forks do not ekevate while pumping in the ASCENT position, turn the setting screw (140H) counter-clockwise until the forks elevate while pumping in the ASCENT position. Then check the NEUTRAL and LOWER position as per item 3.2, 3.3 and 3.4.

4. Maintenance

4.1 Oil

Please check the oil level every six months. The volume of oil is about 0.3lt.

Use the hydraulic type oil according to temperature scale below.

Temperature	Oil
-20℃~+40℃	L-HV46 Hydraulic Oil

4.2 How to expel air from the pump unit

The air may come into the hydraulic because of transportation or pump in upset position. It can cause that forks do not elevate while pumping in the ASCENT position. The air can be banished in the following way: Let the control lever (H106) to the LOWER position, then move the handle (H1501) 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. Give special attention to the wheels (127, F116 or F117), the axles (F114, F118, F121, F122), the handle (H101), the forks (F110) and lift and lower control. The forks should be unloaded and lowered in the lowest position when the job is over.

4.4 Lubrication

Use motor oil or grease to lubricate all moveable parts.

5. Guide to Safety Operation

For safe operation of the truck, please read all warning signs and instructions here and on the truck before using this truck.

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

5.2 Do not operate the truck unless you have checked its condition. Give special attention

to the wheels, the handle assembly, the forks, lift and the lower control.

5.3 Do not use the truck on sloping ground.

5.4 Never place any part of your body in the lifting mechanism or under the forks or load. Do not carry passengers.

5.5 The operator had better take on wear gloves and security shoes for labor protecting.

5.6 Do not handle unstable or loosely stacked loads.

5.7 Do not overload the truck.

5.8 Do not subject to unbalanced load, either side to side or along the length of the frame (refer to Fig. 2/B).

5.9 The capacity of the truck assumes an evenly distributed load with the centre of the load being at the halfway point of the length of the forks.

5.10 Make sure that length of the forks matches the length of the pallet.

5.11 Lower the forks to lowest height when the truck is not being used.

5.12 At other specific conditions or places, the operator should be carefully to operate the pallet truck.

6. Troubles Shooting

No.	TROUBLE	CAUSE	SHOOTING
1	The forks can't rise to max. height.	-The hydraulic oil is not enough .	- Pour in enough filtered oil.
2	The forks do not lift up.	-Without hydraulic oil. -The oil has impurities. -Discharge valve is out of adjustment. -Air in the hydraulic oil.	-Pour in more filtered oil. -Change the oil. -Adjust the setting screw (140H) (See item 3.5). -Banish the air (See item 4.2).
3	The forks can't be descend.	-The rod (102) and the cylinder (159H) becomes deformed result from serious unbalanced load. -Component deformation result from unbalanced load. -The forks were kept at high	-Replace the rod (102) or cylinder (159H). -Repair or replace component to make it run smoothly. -Remove the rust on the rod

		position for long time with rod (102) bared and got rusty. -The setting screw (140H) is not in the correct position.	(102). Keeping the forks at lowest position if not being used. -Adjust the setting screw (140H) (See item 3.4)
4	Leaks	-Seals worn out or damaged. -Some parts may be cracked or worn out.	-Replace seals with new ones. -Check and replace with new ones.
5	The forks descend without the discharge valve worked	-Impurities in the oil cause the discharge valve (B) to fail to close. -Air in the oil. -Seals worn or damaged. -Discharge valve (B) is out of adjustment.	-Replace with filtered oil. -Expel the air (See item 4.2). -Replace with new ones. -Adjust the setting screw (140H) (See item 3.3).

***NOTE: DO NOT ATTEMPT 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 lever in the ASCENT position, pump the handle to make the fork rise, 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 weight 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 woks normally, press the key of “PRINT” until the indicator display “OFF”. Loosen the key will turn off the indicator.

Remark:

The service manual of indicator is appendix of this manual. If you need detailed information about technical features, installation, operation, programming, and configuration, maintenance of the indicator, calibration of scale.

8. The Battery Information and Replacement

The Scale is equipped with a group including 6pcs of chargeable Ni-H batteries.

The Red indicator will glitter when the battery is consumed a lot, and the voltage is very low, it’s time to power off and charge the battery.

How to replacement the battery.

The lift-span of the battery is about 1year or so, it depends on the frequency of use. If you find the duration of the battery is very short, the battery should be replaced by a new one.

1) Remove the Screw (F341), disassemble rear cover (F339);
2) Open the rear plate of the indicator, take out the battery (F342);
3) Install new battery, and assemble the rear plate of the indicator;
4) Use 4pcs of screw (F341) to fix the rear cover (F339).

Fig.1

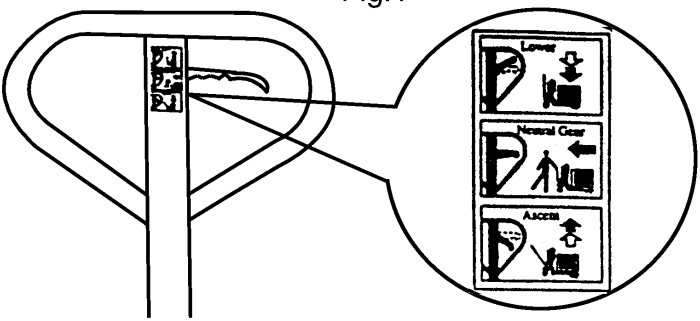
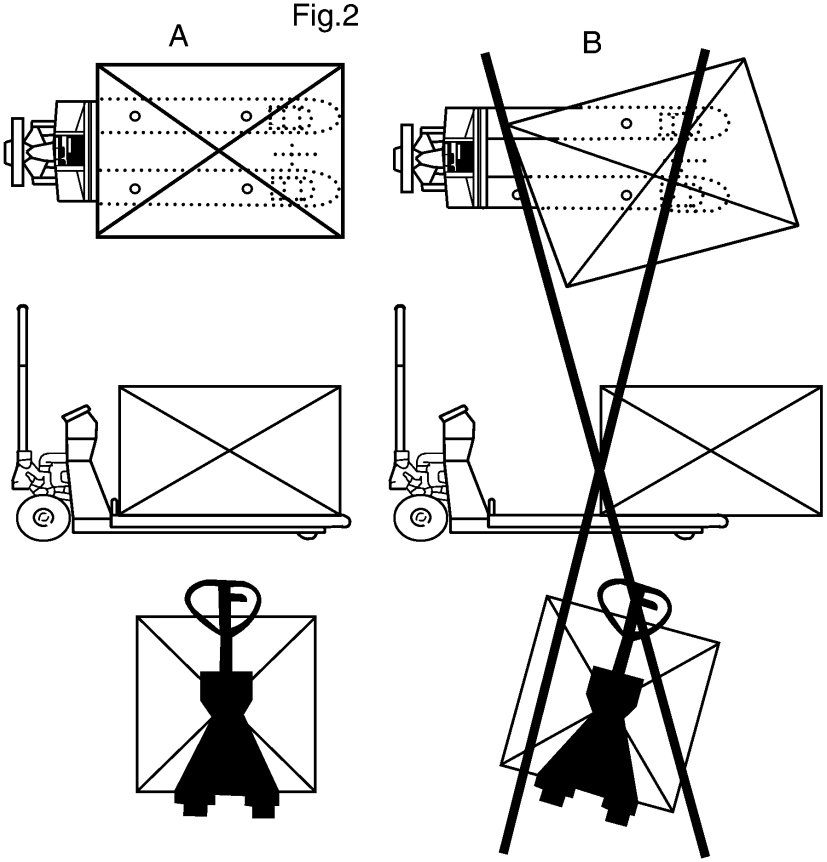
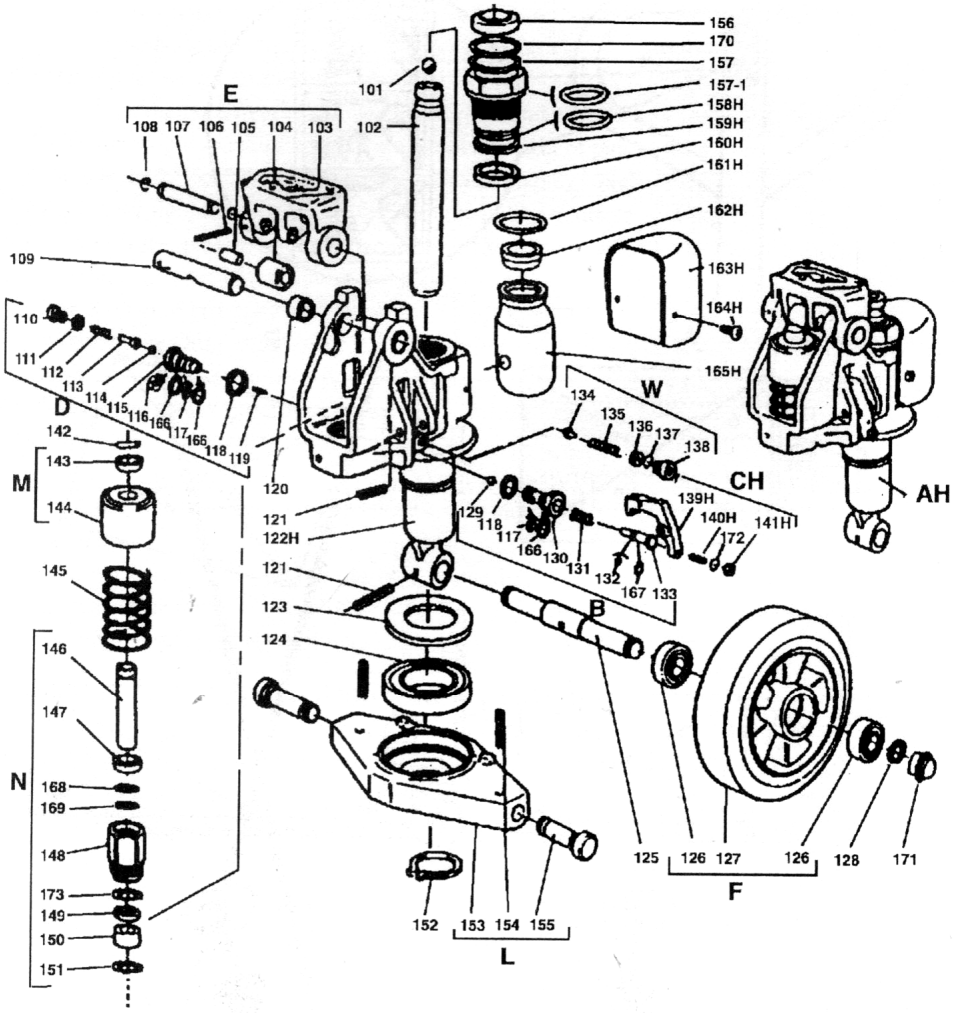


Fig.2



Exploded View of Pump Assembly

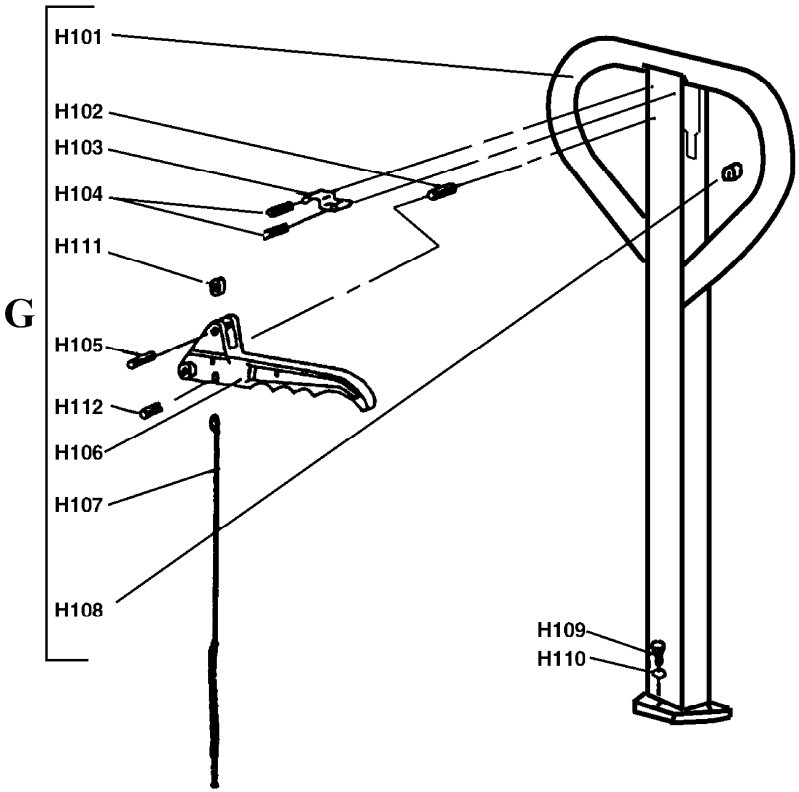


Parts List of Pump Assembly

Part No.	Description	Qty	Part No.	Description	Qty
101	Steel ball	1	136	Pressure regulating screw	1
102	Rod	1	137	O-ring	1
103	Base	1	138	Screw	1
104	Steel roller	1	139H	Crank link	1
105	Bushing	1	140H	Setting screw	1
106	Pin	1	141	Nut	1
107	Shaft	2	142	Parallel pin	1
108	Retaining ring	1	143	Retaining cover	1
109	Axle	1	144	Spring cover	1
110	Screw	1	145	Spring	1
111	Washer	1	146	Pump rod	1
112	Spring	1	147	Dust proof ring	1
113	Pressure rod	1	148	Pump cylinder	1
114	Steel ball	1	149	Seal ring	1
115	Pressure valve body	1	150	Nylon bushing	1
116	Split ring	1	151	Red copper washer	1
117	O-ring	2	152	Retaining ring	1
118	Washer	2	153	Rhombus plate	1
119	Steel needle	1	154	Pin	2
120	Bushing	2	155	Dowel pin	2
121	Pin	2	156	Dust proof ring	1
122H	Pump body	1	157	O-ring	1
123	Dust cover	1	157-1	O-ring	1
124	Bearing	1	158H	O-ring	1
125	Steering wheel axle	1	159H	Cylinder	1
126	Bearing	4	160H	Seal ring	1
127A	Steering wheel, Nylon	2	161H	O-ring	1
127B	Steering wheel, Polyurethane	2	162H	Filler plug	1

127C	Steering wheel, Poly/Nylon	2	163H	Reservoir cover	1
127D	Steering wheel, Rubber	2	164H	Screw	2
128	Retaining ring	2	165H	Reservoir	1
129	Steel ball	1	166	Retainer	3
130	Discharge valve body	1	167	Retainer	1
131	Spring	1	168	Retainer	1
132	O-ring	1	169	O-ring	1
133	Discharge valve shaft	1	170	Retainer	1
134	Valve taper core	1	171	Dust cover	2
135	Spring	1	172	Spring washer	1
			173	O-ring	1

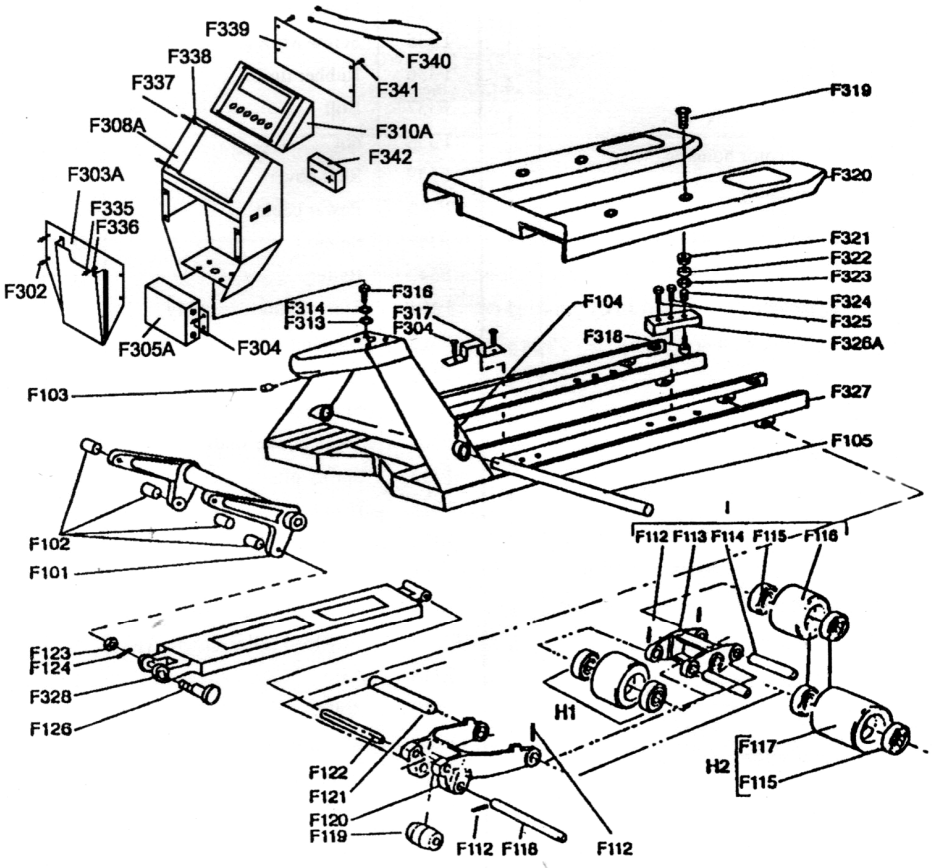
Exploded View of Handle



Parts List of Handle

Part No.	Description	Qty	Part No.	Description	Qty
H101	Handle	1	H107	Rod and chain	1
H102	Spring pin	1	H108	Rubber cushion	1
H103	Spring leaf	1	H109	Screw	3
H104	Spring pin	2	H110	Spring washer	3
H105	Spring pin	1	H111	Nylon roller	1
H106	Control lever	1	H112	Spring pin	1

Exploded View of Frame



Parts List of Frame

Part No.	Description	Qty	Part No.	Description	Qty
F302	Screw	4	F328	Push rod	2
F303A	Front cover	1	F335	Screw M6×10	1
F304	Screw	4	F336	Rubber turn	1
F305A	Junction box	1	F337	Bolt	4
F308A	Indicator housing	1	F338	Not	4
F310A	Indicator	1	F339	Rear cover	1
F311	Bolt	1	F340	Power cable	1
F312	Washer	1	F341	Screw	4
F313	Washer	5	F342	Battery	1
F314	Spring washer	5	F101	Torsion tube assembly	1
F315	Nut	1	F102	Bushing	4
F316	Bolt	4	F103	Hexagon socket screw	1
F317	Wire clip	2	F104	Spring pin	1
F318	Screw	4	F105	Torsion tube shaft	1
F319	Fix screw	4	F112	Spring pin	8/4*
F320S	Cover plate assembly (555mm)	1	F113	H-link	2
F320L	Cover plate assembly (690mm)	1	F114	Load roller axle	4
F321	Convex spherical washer	4	F115	Bearing	8/4*
F322	Concave spherical washer	4	F116B	Poly load roller, tandem type	4
F323	Nut	4	F117B	Poly load roller, single type	2
F324	Set screw	4	F118	Axle	2
F325	Bolt	8	F119	Roller	2
F326A	Load cell	4	F120	Wheel frame	2
F327S	Frame (555mm)	1	F121	H-link axle	2
F327L	Frame (690mm)	1	F122	Pull rod axle	2
			F123	Nut	2
			F124	Spring washer	2
			F126	Eccentric pin	2

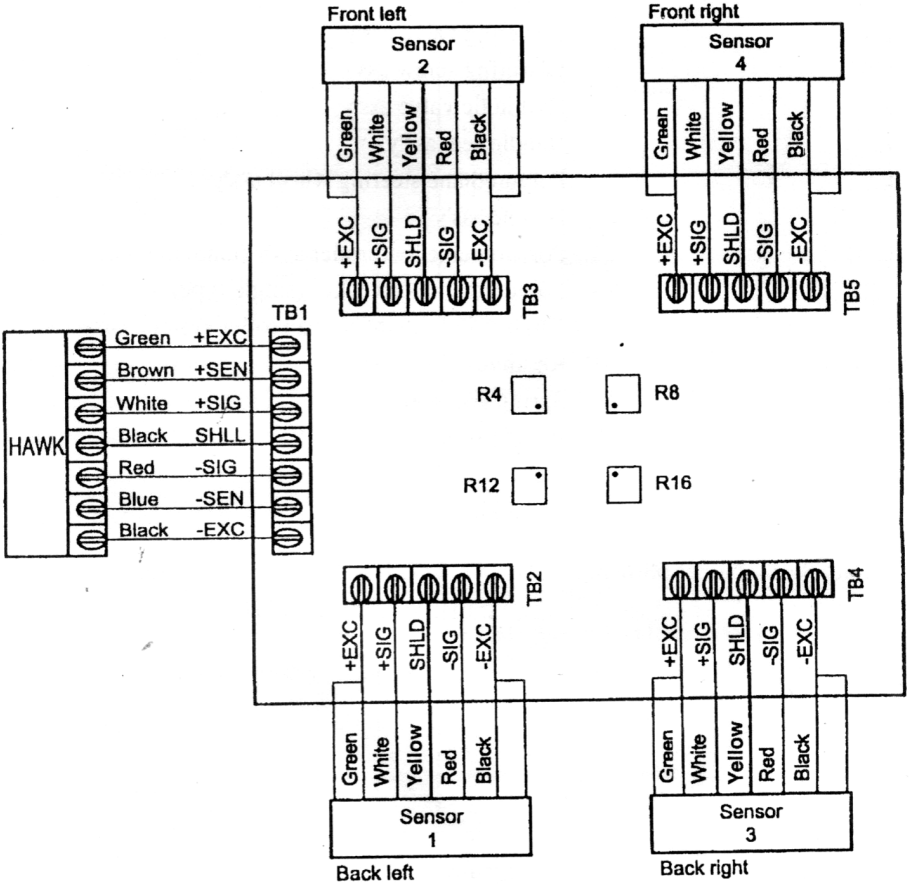
Note*: Quantity for tandem roller is 8, for single roller is 4.

Assembly List

Assembly	Description
AH	Pump unit
B	Lowering valve ass'y
CH	Lowering screw ass'y
D	Hydraulic valve ass'y
E	Handle seat ass'y
F2	Polyurethane steering wheel ass'y
G	Handle ass'y
H1B	Polyurethane load roller ass'y (tandem type)
H2B	Polyurethane load roller (single type)
I2	Tandem Polyurethane load roller system ass'y
L	Rhombus plate ass'y
M	Spring cover ass'y
N	Pump piston ass'y
W	Safety valve ass'y
SH	*Seal kit

*Note: Seal kit include following parts: 111, 117, 118, 132, 137, 147, 149, 151, 156H, 157, 158H, 160H, 161H.

9. 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**

10. Charging

There is a charger as an accessory in the hand pallet truck with scale. When the indicator shows the battery need to be charged, first turn off the indicator, and then insert charging plug from the jack of indicator case (F308) one side, and connect the other side to AC supply. Now the charger is in the normal state of charging. There are two LBDs on the charger. The red LBD is pilot lamp of power signal and the green one is pilot lamp of charging signal. They are shining continually while the battery begins to be charged. When the battery has been to be charged enough, the charge cycle is complete, and the green LBD will go out. The charger has function of self-stopping charging.

11. Trouble Shooting of Weighing Unit

NO	TROUBLE	CAUSE	SHOOTING
1	Data drift	-Fastener or end of a thread in junction box is loosen or dropped.	-Check the connection in junction box after confirming safe.
2	Indicator can't be turned on.	-Battery voltage is not enough. -Battery life is complete. -Charging jack is damaged.	-Charging -Replace rechargeable battery with new ones. -Replace charging jack.
3	Battery can't be charged.	-Battery is damaged. -Charger is damaged.	-Replace rechargeable battery with new ones. -Check charger output voltage (17V~18V), replace charger with new ones.
4	While turning on scale, it display EEE	-Load on the fork.	-Move the load, and then turn on the scale.
5	While turning on scale, it display -EEE	-Connection between sensor and junction box is loosen or dropped. -Sensor is damaged.	-Check the connection between sensor and junction box. -Replace sensor with new ones.