

# Pallet Truck with Scale Instruction Manual



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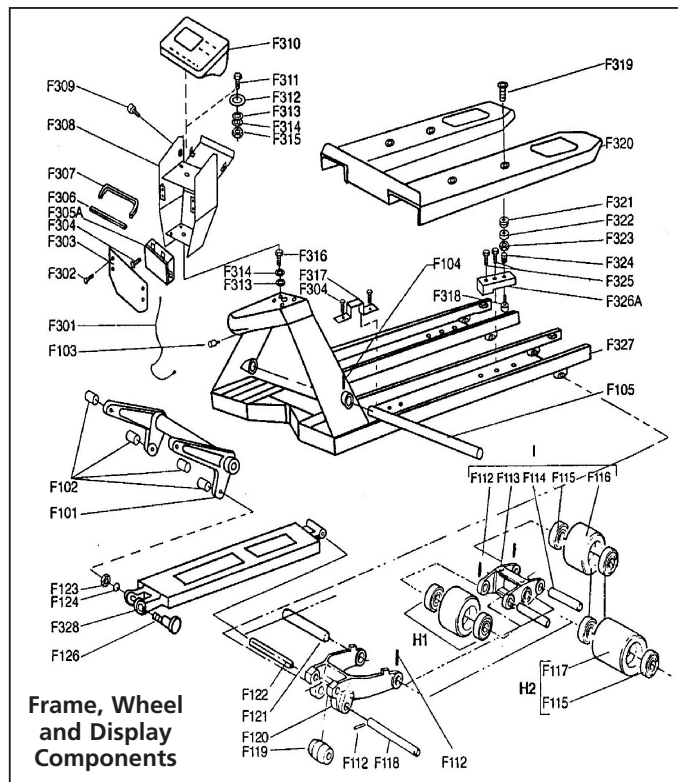
| Assembly list |   |
|---------------|---|
| Assembly      | Description                                     |
| AH            | Pump unit                                       |
| B             | Lowering valve assembly                         |
| CH            | Lowering screw assembly           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

### 9. CHARGING

A battery charger, sold as an accessory, for the hand pallet truck with scale allows recharging. When the "low battery" indicator is displayed, the battery needs to be charged. First turn off the indicator, and then insert the charging plug from the jack of indicator case (F308) to one side, and connect the other side to AC power supply. The charger will begin to charge. There are two LBD's on the charger. The red LBD is the pilot lamp for power signal and the green one is pilot lamp of charging signal. These will continuously signal while the battery charges. When the battery is fully charged, the green LBD light will go out. The charger will self-stop when battery is fully charged.

### 10. WEIGHING UNIT TROUBLESHOOTING

| No. | Problem                             | Cause  | Solution  |
|-----|-------------------------------------|--|---|
| 1   | Data drift                          | <ul style="list-style-type: none"> <li>Fastener or end of a thread in junction box is loose or off.</li> </ul>                                     | <ul style="list-style-type: none"> <li>Check the connection in junction box after confirming safe.</li> </ul>                                     |
| 2   | Indicator does not turn on.         | <ul style="list-style-type: none"> <li>Battery voltage is low.</li> <li>Battery life is complete.</li> <li>Charging jack is damaged.</li> </ul>    | <ul style="list-style-type: none"> <li>Charge battery.</li> <li>Replace rechargeable battery.</li> <li>Replace charging jack.</li> </ul>          |
| 3   | Battery does not charge             | <ul style="list-style-type: none"> <li>Battery is damaged.</li> <li>Charger is damaged.</li> <li>unbalanced loads.</li> </ul>                      | <ul style="list-style-type: none"> <li>Replace rechargeable battery.</li> <li>Check charger output voltage (17V~18V), replace charger.</li> </ul> |
| 4   | Scale displays EEE when turned on.  | <ul style="list-style-type: none"> <li>Load is present on the fork.</li> </ul>   | <ul style="list-style-type: none"> <li>Move the load and then turn on scale.</li> <li>Check and replace parts.</li> </ul>                         |
| 5   | Scale displays -EEE when turned on. | <ul style="list-style-type: none"> <li>Connection between sensor and junction box is loose or disconnected.</li> <li>Sensor is damaged.</li> </ul> | <ul style="list-style-type: none"> <li>Check the connection between sensor and junction box.</li> <li>Replace sensor</li> </ul>                   |



| Parts No. | Description                  | Qty. | Parts No. | Description                   | Qty. |
|-----------|------------------------------|------|-----------|-------------------------------|------|
| F301      | Signal wire                  | 1    | F325      | Bolt                          | 8    |
| F302      | Screw                        | 4    | F326A     | Load cell                     | 4    |
| F303      | Cover plate                  | 1    | F327S     | Frame(555mm)                  | 1    |
| F304      | Screw                        | 8    | F327L     | Frame(690mm)                  | 1    |
| F305A     | Analog junction box          | 1    | F328      | Pull rod                      | 2    |
| F306      | Rubber                       | 1    | F101      | Torsion tube assembly         | 1    |
| F307      | Rubber                       | 1    | F102      | Bushing                       | 4    |
| F308      | Indicator case               | 1    | F103      | Hexagon socket screw          | 1    |
| F309      | Knurled screw                | 2    | F104      | Spring pin                    | 1    |
| F310      | Indicator                    | 1    | F105      | Torsion tube shaft            | 1    |
| F311      | Bolt                         | 1    | F112      | Spring pin                    | 8/4* |
| F312      | Washer                       | 1    | F113      | H-link                        | 2    |
| F313      | Washer                       | 5    | F114      | Load roller axle              | 4    |
| F314      | Spring washer                | 5    | F115      | Bearing                       | 8/4* |
| F315      | Nut                          | 1    | F116B     | Poly load roller, tandem type | 4    |
| F316      | Bolt                         | 4    | F117B     | Poly load roller, single type | 2    |
| F317      | Wire clip                    | 2    | F118      | Axle                          | 2    |
| F318      | Screw                        | 4    | F119      | Roller                        | 2    |
| F319      | Fix screw                    | 4    | F120      | Wheel frame                   | 2    |
| F320S     | Cover plate assembly (555mm) | 1    | F121      | H-link axle                   | 2    |
| F320L     | Cover plate assembly (690mm) | 1    | F122      | Pull rod axle                 | 2    |
| F321      | Convex spherical washer      | 4    | F123      | Nut                           | 2    |
| F322      | Concave spherical washer     | 4    | F124      | Spring washer                 | 2    |
| F323      | Nut                          | 4    | F126      | Eccentric pin                 | 2    |

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

Thank you for purchasing this pallet truck with scale. For safe and correct operation, please carefully read this instruction manual before use.

**NOTE:** 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. It is suggested to always verify possible updates.

## 1. General Specifications

| Model  | Capacity | Weighing Accuracy | Length | Fork Size Width Over Forks | Fork Width | Net Weight |
|--------|----------|-------------------|--------|----------------------------|------------|------------|
| HPW20S | 2000kg   | $\pm 1^0/_{00}$   | 1150mm | 555mm                      | 180mm      | 136kg      |
| HPW20L | 2000kg   | $\pm 1^0/_{00}$   | 1150mm | 690mm                      | 180mm      | 143kg      |

## 2. Attach Handle To Pump Unit

2.1 Loosen the setting screw (140) 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 center 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. 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, page 6):

**Lower**= to lower the forks; **Neutral**= to move the load; **Ascend**= to raise the forks. After assembling the handle, you can adjust the three positions.

3.1 First tighten the setting screw (140) 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 (140) 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 (140) 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 (140) 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 elevate while pumping in the **Ascend** position, turn the setting screw (140) counter-clockwise until the forks elevate while pumping in the **Ascend** 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 10 oz. Use the hydraulic oil type according to temperature scale below.

| Temperature | Oil   |
|-------------|---|
| 23°F-113°F  | L-HM68 Hydraulic oil (equivalent to ISO VG68) |
| 5°F-23°F    | L-HM46 Hydraulic oil (equivalent to ISO VG46) |

### 4.2 HOW TO EXPEL AIR FROM THE PUMP UNIT

Air may come into the hydraulic pump while transporting scale with pump in upright position. This can cause forks to not elevate while pumping in the ASCEND position. The air can be removed in the following way: Put the control lever (H106) to the LOWER position, and then move the handle (H1501) up and down 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.

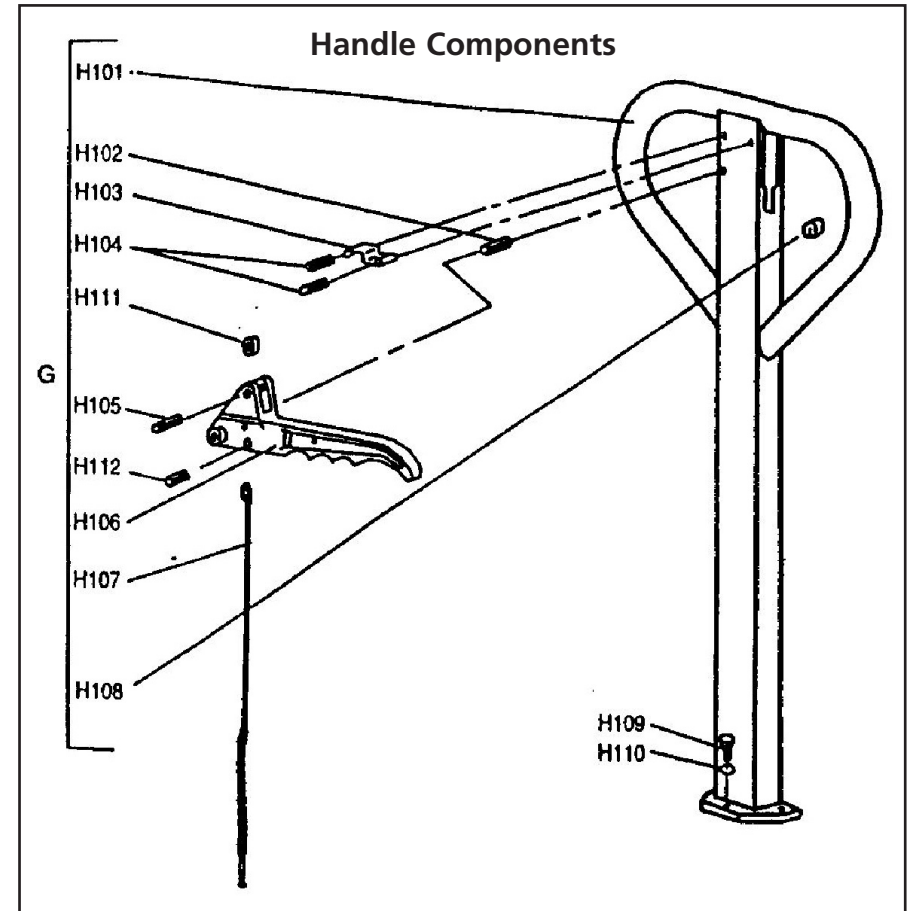
### 4.4 LUBRICATION

Use motor oil or grease to lubricate all moveable parts.

## 5. GUIDE FOR SAFE 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 should wear gloves and safety shoes for protection.
- 5.6 Do not handle unstable or loosely stacked loads.
- 5.7 Do not overload the truck.
- 5.8 Do not subject to unbalanced loads, either side to side or along the length of the frame (refer to Fig. 2, page 6).
- 5.9 The capacity of the truck assumes an evenly distributed load with the center of the load being at the halfway point of the length of the forks.
- 5.10 Make sure the length of the forks matches the length of the pallet.
- 5.11 Lower the forks to the lowest height when the truck is not being used.
- 5.12 At other specific conditions or places, the operator should be careful to operate the pallet truck.



| Parts No. | Description   | Qty. | Parts 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    |

| Parts No. | Description                  | Qty. | Parts 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                        | 1    | 142       | Parallel pin              | 1    |
| 108       | Retaining ring               | 2    | 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 tape core              | 1    | 171       | Dust cover                | 2    |
| 135       | Spring                       | 1    |           |                           |      |

## 6. TROUBLESHOOTING

| No. | Problem   | Cause   | Solution  |
|-----|---|---|---|
| 1   | Forks do not rise to max. height.                 | • Not enough hydraulic oil  | • Add filtered oil.   |
| 2   | Forks do not lift up.                             | • There is no hydraulic oil.<br>• The oil has impurities.<br>• Discharge valve is out of place.<br>• Air is present in the hydraulic oil.   | • Add more filtered oil.<br>• Change the oil.<br>• Adjust the setting screw. (140) (See item 3.5)<br>• Remove unwanted air (See item 4.2)   |
| 3   | Forks do not descend                              | • The rod (102) and the cylinder (159H) are deformed due to unbalanced loads.<br>• The forks were kept at upright position for long period of time with rod (102) bare and are rusted | • Replace the rod (102) or cylinder (159H).<br>• Repair or replace component.<br>• Remove the rust on the rod (102).<br>• Keep forks in lowest position when not in use.<br>• Adjust setting screw (140) (See item 3.4) |
| 4   | Leaks   | • Seals are worn out or damaged.<br>• Parts may be cracked or worn  | • Replace seals.<br>• Check and replace parts.  |
| 5   | Forks descend without the discharge valve working | • Impurities in the oil can cause the discharge valve (B) to not close tightly.<br>• Air in the oil<br>• Seals worn or damaged<br>• Discharge valve (B) is out of place.              | • Replace with filtered oil.<br>• Remove the air (See item 4.2)<br>• Replace seals.<br>• Adjust setting screw (140) (See item 3.3)  |
| 6   | Scale is not weighing properly                    | • Dirt on load cells  | • Clean load cells.   |

**\*Note: Do not attempt to repair the pallet truck unless trained or 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 is on. After the indicator self checks, it displays "0kg".

### 7.3 Weighing method for gross weight:

Place forks under pallet and check if load is balanced. Put the control lever in the ASCEND position; pump the handle to lift forks until the pallet leaves ground position. The stable reading of the indicator 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 follows:

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

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

7.4.3 Remove the pallet from the forks, then the indicator displays "-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 Switch between kilogram and pound.

When the reading of indicator is in kilogram units, press the "FUNCTION" key, the unit reading switches to lbs. Press the "FUNCTION" key again, the unit reading returns to kilograms.

### 7.6 Turn off the Indicator

When the indicator is on, press the "PRINT" key until the indicator display "OFF". Loosen the key to turn off the indicator.

## 8. BATTERY POWER DATA AND REPLACEMENT

The HAWK indicator on scale pallet truck uses six "D" size batteries for DC power. You are recommended to use alkaline batteries. Rechargeable batteries can also be used.

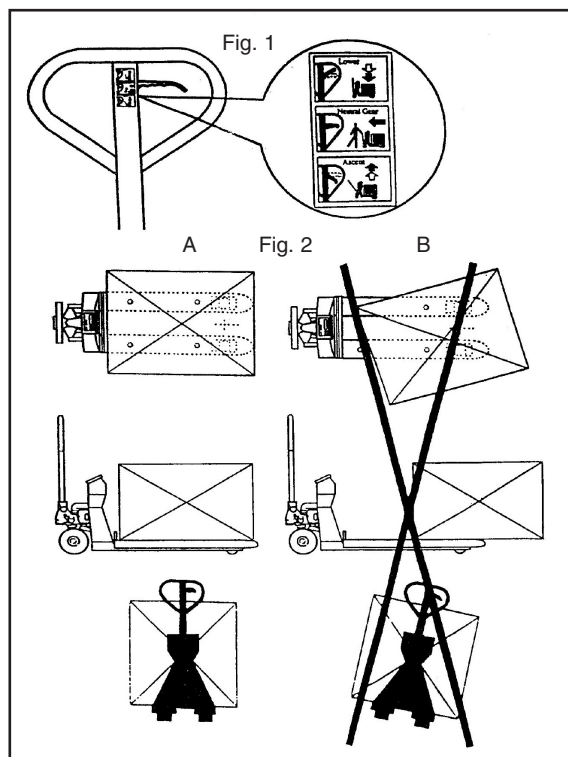
Change the batteries when the illuminated cursor displays the "Low battery" icon on the keyboard indicator.

### How to change batteries:

8.1 Loosen the knurled screw (F309) on the two sides of the indicator case (F308), turn over the baffle of indicator case.

8.2 Open the battery cover plate on the rear of indicator (F310), insert six "D" size batteries into the battery holder according to the direction marked on the holder. Then re-install the battery cover plate.

8.3 Screw the knurled screw to fix the baffle of indicator case.



(2-1)

## Pump and Axle Components

