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PM10-2245 -MANUAL HAND-PALLET TRUCK (10,000 LBS)

OPERATION AND MAINTENANCE MANUAL



Receiving instructions:

After delivery, IMMEDIATELY remove the packaging from the product in a manner that preserves the packaging and maintains the orientation of the product in the packaging; then inspect the product closely to determine whether it sustained damage during transport. **If damage is discovered during the inspection, immediately record a complete description of the damage on the bill of lading.** If the product is undamaged, discard the packaging.

NOTES:

- 1) Compliance with laws, regulations, codes, and non-voluntary standards enforced in the location where the product is *used* is exclusively the responsibility of the owner/end-user.
- 2) VESTIL is **not liable** for any injury or property damage that occurs as a consequence of failing to apply either:
 - a) Instructions in this manual; or
 - b) Information provided on labels affixed to the product.Neither is Vestil responsible for *any* consequential damages sustained as a result of failing to exercise sound judgment while assembling, installing, using or maintaining this product.

PRODUCT INTRODUCTION



Thank you for purchasing Heavy-Duty Pallet Truck ("PM10-2245," "truck," or "unit") offered by Vestil Manufacturing Corporation ("Vestil"). Our heavy duty pallet truck is durable, high-quality products that combine safety features and low-maintenance mechanisms. Despite the product's relatively simple mechanics, all personnel must familiarize themselves with the safe operation instructions provided in this manual.

Vestil Manufacturing Corp. created this manual to acquaint owners and users of our electric pallet trucks with safe operation and maintenance procedures. **Employers are responsible for instructing employees to use the product properly. Employees and any other persons, who might foreseeably use, repair, or perform maintenance on the EPT must read and understand every instruction BEFORE using the device. Cart operators should have access to the manual at all times and should review the directions before each use. Contact Vestil for answers to any question you have after reading the entire manual.**

Although Vestil diligently strives to identify foreseeable hazardous situations, this manual cannot address every conceivable danger. The end-user is ultimately responsible for exercising sound judgment at all times.

SAFETY PRINCIPLES

Vestil Manufacturing Corp. recognizes the critical importance of workplace safety. Each person who **might** participate in operation or maintenance of the product must read this manual. **Read the entire manual and fully understand the directions BEFORE using or performing maintenance on the pallet truck. If you do not understand an instruction, contact Vestil for clarification. Failure to adhere to the directions in this manual might lead to serious personal injury or even death.**

Vestil is **not liable** for any injury or property damage that occurs as a consequence of failing to apply the safe operation and maintenance procedures explained in this manual or that appear on labels affixed to the product. Furthermore, failure to exercise good judgment and common sense may result in property damage, serious personal injury, or death, and also are **not the responsibility of Vestil**.

This manual applies the hazard identification methods suggested for instruction manuals by the American National Standards Institute (ANSI). In accordance with ANSI guidelines for hazard identification language, this manual classifies personal injury risks and situations that could lead to property damage with SIGNAL WORDS. These signal words announce an associated safety message. The reader must understand that the signal word chosen indicates the seriousness of that hazard according to the following convention:

⚠ DANGER Identifies a hazardous situation which, if not avoided, WILL result in DEATH or SERIOUS INJURY. Use of this signal word is limited to the most extreme situations.

⚠ WARNING Identifies a hazardous situation which, if not avoided, COULD result in DEATH or SERIOUS INJURY.

⚠ CAUTION Indicates a hazardous situation which, if not avoided, COULD result in MINOR or MODERATE injury.

NOTICE Identifies practices not related to personal injury, such as operation that could damage the cart. No safety alert symbol (equilateral triangle enclosing an exclamation point) accompanies this signal word.

SAFETY GUIDELINES

Failure to read and understand the instructions included in this manual before using or servicing the pallet truck constitutes misuse of the product. Study the entire manual before you use the truck for the first time and before each subsequent use. Read the manual to refresh your understanding of the safe use and maintenance procedures on p. 50-51. If questions remain after you finish reading the manual, contact Vestil for answers. DO NOT attempt to resolve any problem with the truck unless you are certain that it will be safe to use afterwards.

⚠ DANGER

To decrease the risk of electrocution:

- DO NOT *contact* or *operate* the pallet truck *close to* electrified wires or other sources of electricity;
- Before operating the PM, always inspect the area where you will use it.

⚠ WARNING

Improper use might result in serious personal injuries to the operator and/or bystanders. To minimize the possibility of injury, ALL persons who might operate, perform maintenance on, or service the PM must read, understand and apply the following instructions:

- DO NOT operate the PM unless and until you are:
 1. Trained to use the machine; AND
 2. Certified as a trained operator by your employer in accordance with U.S. OSHA regulations (29 CFR §1910.178) and any standards incorporated by reference (e.g. ANSI/ITSDF B56.1-2005).
- **DO NOT attempt to lift or transport loads that exceed the rated capacity.**
- Inspect the machine before each use; DO NOT use the PM unless it is in normal condition. Normal operating condition exists if the PM passes the inspection and functions tests described under the heading, "Inspect the PM & Perform a Functions Tests".
- DO NOT use the unit until you read and understand the entire owner's manual. Review the manual before each use AND before performing maintenance on the device.
- DO NOT use the PM if the load-supporting elements sustain any structural damage. Structural elements include, but are not limited to, the forks, carriage, and wheels. If structural damage is present, immediately tag the unit "Out of Service" and inform maintenance personnel of the problem.
- DO NOT use the PM if it makes unusual noises during operation.
- DO NOT attempt to lift an unevenly distributed load. Always center and evenly distribute the load on the forks.
- DO NOT operate the PM on surfaces (ramps or grades) angled more than 4 degrees.
- DO NOT leave the PM unattended while it supports a load. Always fully lower the forks, and then completely disengage the skid or pallet.
- DO NOT modify the pallet truck without first receiving written authorization from Vestil. Unauthorized modifications may make the PM unsafe to use.

NOTICE

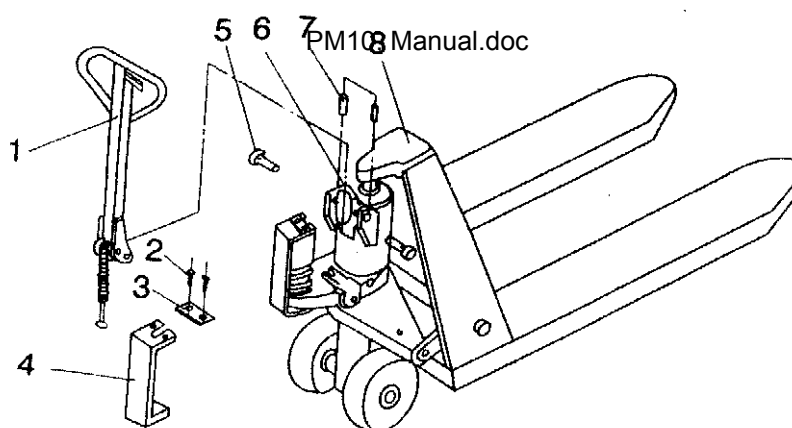
To maximize the service life of the PM and to prevent damage:

- Always store the machine in a secure, dry location where it will not interfere with traffic or other activities.

1. GENERAL SPECIFICATIONS

Model	PM10-2245
Capacity	10,000 lbs
Max. Fork Height	7.875"
Min. Fork Height	3.5"
Fork Length	45.25"
Width Overall Forks	22.83"
Individual Fork Width	8.25"
Load Wheel Diameter	Ø3.15"x2.7"
Steering Wheel Diameter	Ø7.9x2"
Net Weight	435 lbs

2. TO ATTACH HANDLE TO PUMP UNIT



1. Handle assembly 2. Screw 3. Iron sheet 4. C-type clip
5. Pin 6. Bracket 7. Spring pin 8. Pump unit and Frame

- 2.1 Take out two pins (5) and two spring pins (7) from the plastic bag wrapping on the handle assembly (1).
- 2.2 Undo two screws (2) and iron sheets (3) on C-type clip (4).
- 2.3 Insert down end of handle assembly (1) into the bracket (6), please note: Feed the rod and chain (H802) through the center of bracket (6).
- 2.4 Install the two pins (5) to connect the handle assembly (1) and bracket (6).
- 2.5 Install the two spring pins (7).
- 2.6 Press down the handle assembly (1) and take out C-type clip.
- 2.7 Loosen the setting screw (140H) on the crank link (5010).
- 2.8 Raise the crank link (5010) and put the pin on rod and chain (H802) into the groove of crank link (5010).

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 (5010) 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 lift 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 oil capacity is about 0.3lt. Restore the fluid level in the rubber reservoir to 5mm below the top, this must be with the forks in the lowered position.

Add or change the hydraulic oil according to the table below.

Temperature	Oil
-20°C~+40°C	HO150

4.2 HOW TO EXPEL AIR FROM THE PUMP UNIT

Air may enter the unit when the seals are replaced. Lift the control lever (H106) to the LOWER position, then move the handle up and down for several times.

4.3 DAILY CHECK AND MAINTENANCE

Daily check of the pallet truck can limit wear and tear of the unit. Pay special attention to the wheels (5031, F5008), the axles (F5006, F5009, F5011, F5014), the handle (H801), the forks (F5002) and lift and lower control. When the truck is not being used, it should be left in the lowered position.

4.4 LUBRICATION

Use motor oil or grease to lubricate all moveable parts.

5. SAFETY RULES AND OPERATING INSTRUCTIONS

For safe operation of the Hand Pallet Truck, please read all warning signs and instructions here and on the pallet truck prior to use.

5.1 Safety rules

To avoid hazardous situations, you should obey the following rules:

- 1) Fall Hazard
Do not use as a personnel lifting platform or step.
- 2) Tip-over Hazards
Do not overload the machine.
The machine can be only used on a firm, level surface.
Do not use the machine on the condition of drop-offs, holes, bumps, debris, unstable surfaces or other possible hazardous conditions.
The machine can be only used in the light environment of at least 50LUX.
- 3) Collision hazards
Do not lift if the load is not properly centered on the forks. Check the "Diagram of correct centered load" on the manual for correct load center position.
Check the work area for overhead obstruction or other possible hazards.
- 4) Bodily Injury Hazards
Recommended operators to wear safety shoes and gloves.
Do not put the hands and feet under the forks when using the machine.
- 5) Improper Use Hazard
Never leave a machine unattended with a load.
- 6) Damaged Machine Hazards
Do not use a damaged or malfunctioning machine.
Conduct a thorough pre-operation inspection prior to each use.
Be sure that all decals are in place and legible.
- 7) Lifting Hazard
Use proper lifting techniques to load the machine.

5.2 Operating instructions

- Do not operate the machine unless you have been trained and authorized.
- Check the machine prior to use, pay special attention to the wheels, the hand assembly, the forks and lift and lower control.
- The machine shall not be used on gradients, if it is necessary to negotiate slopes, the gradient shall be no more than 2%, and the machine shall be unloaded, the forks shall be facing downgrade.
- Never place any part of your body in the lifting mechanism or under the forks on load.
- Do not carry passengers.
- We advise that operators should wear gloves and safety shoes.
- Do not handle unstable or loosely stacked loads.
- Do not overload the machine.
- The handle shall not be turned right to stop.
- The machine shall not be used as a vehicle jack.
- The extremity of fork arms shall not be used as a lever to lift a load.
- The machine shall not have direct contact with foodstuffs.
- The machine shall not be used in a potentially explosive atmosphere.
- When the machine is using in the truck, it can not be loaded extremely heavy goods, so as to bumping the operators or losing the control of the machine.

- The machine shall not be used unbalanced load.
- The machine shall not be used undesignedly moving hazard situations.
- When the machine is loading:
 - 1) Push the machine, the height of the load can not exceed the sight of the operators;
 - 2) The machine shall be moved slowly and smoothly, so as to occur the bump hazard;
 - 3) While moving no part of the fork arms or of the load shall come into contact with an obstacle;
 - 4) During lowering the load neither the fork arms nor the load shall rest upon an obstacle.
- Lower the forks to lowest height without load when the machine is not being used.

6. TROUBLES SHOOTING

NO	TROUBLE	CAUSE	ACTION
1	The forks do not lift to maximum height.	-Not enough hydraulic oil.	-Add more oil.
2	The forks do not lift up.	-Not enough 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). -Expel the air.
3	The forks do not descend.	-The rod (5002) and the cylinder (5022) are deformed resulting from a seriously unbalanced load. -A part has been broken or been deformed resulting from unbalanced load. -The setting screw (140H) is not in the correct position.	-Replace the rod (5002) or cylinder (5022). -Repair or replace component. -Adjust the setting screw (140H).
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 being lowered.	-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. -Replace with new ones. -Adjust the setting screw (140H).

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

Attached list of repair and maintenance record (Attached list A)

7. TRANSPORTATION AND STORAGE OF THE MACHINE

- The machine is packed in wood pallet, six in one wood pallet, each machine is packed with corrugated paper, and each weight is 197kg.
- Pay attention to the balance while hanging and unloading, do not bump, so as to occur fall hazard.
- Pay attention while disassembling the package, person or machine shall not be scraped by the sheet iron of the pack.
- The machine shall be stored in dry room.

Fig.1

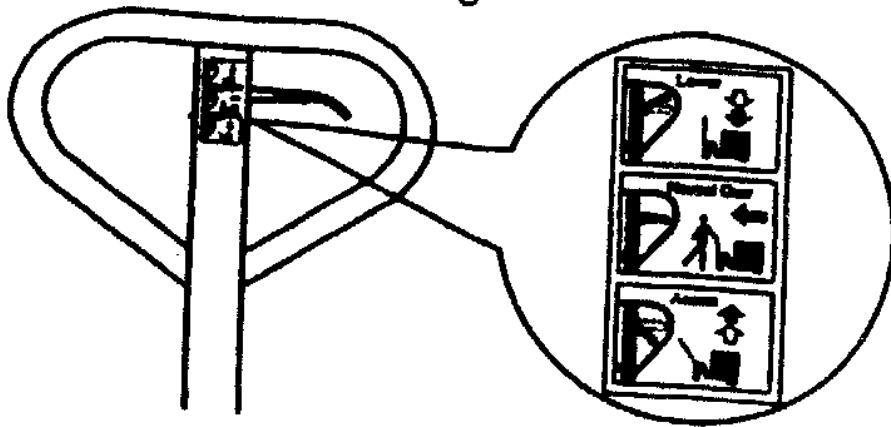
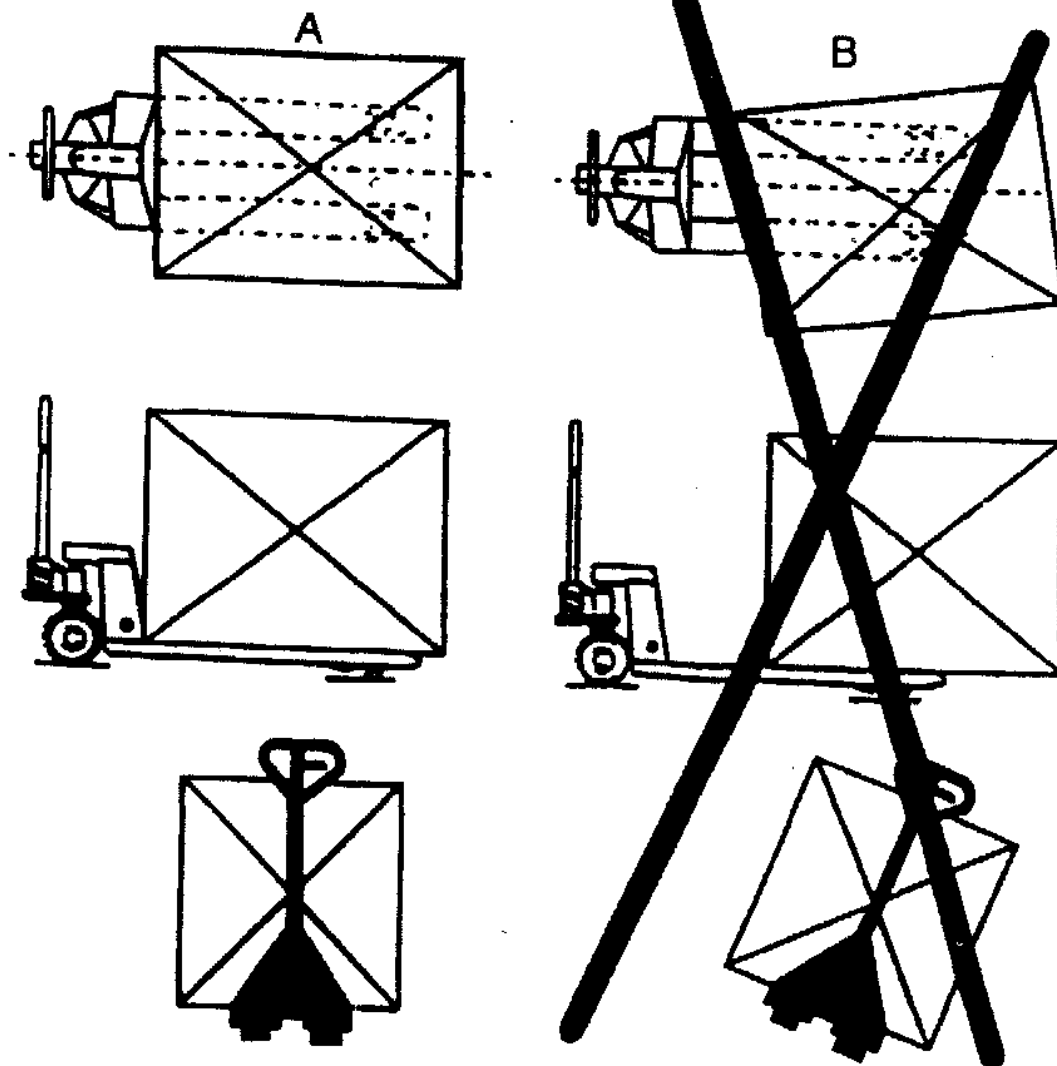
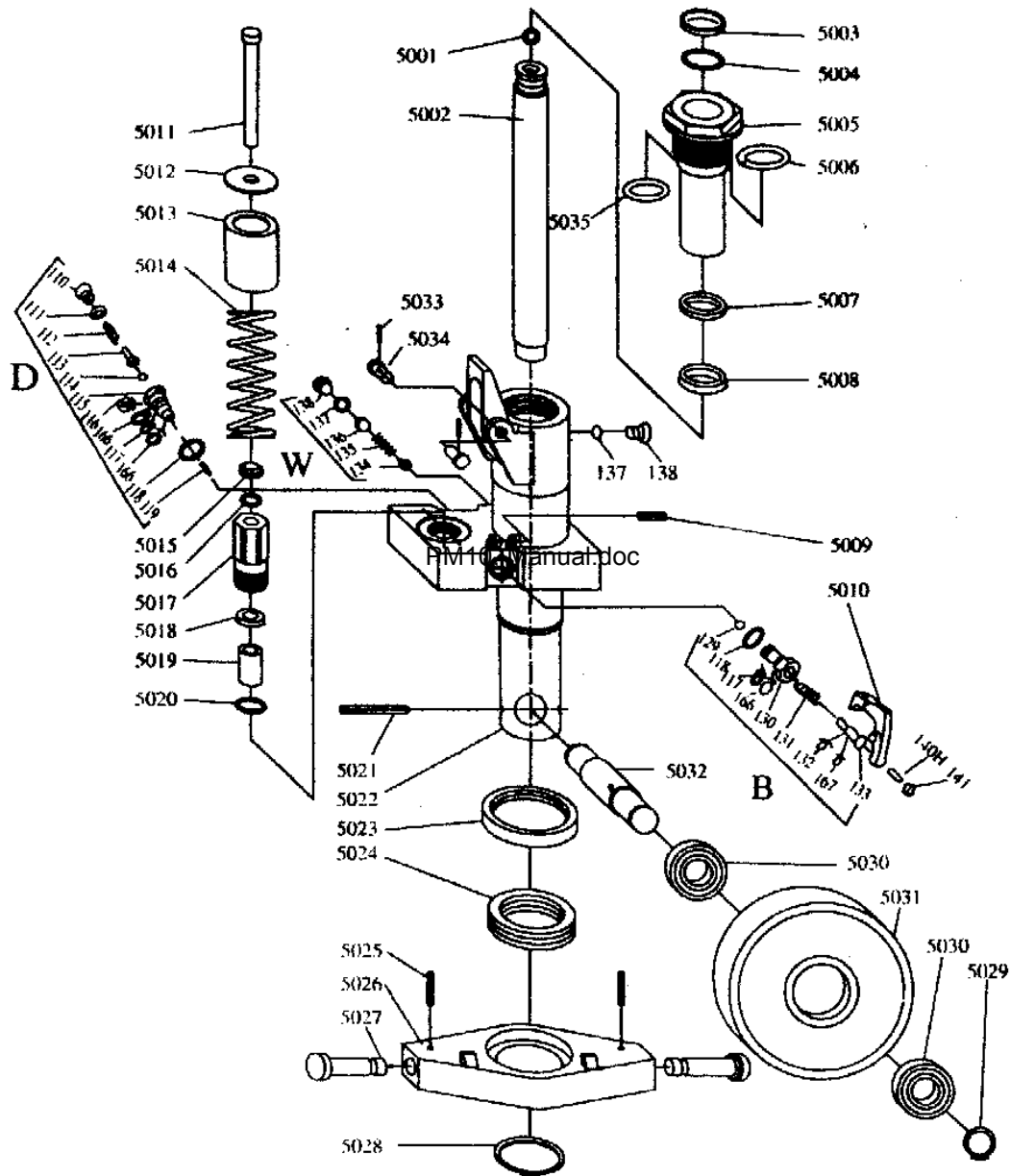


Fig.2



Pump Assembly

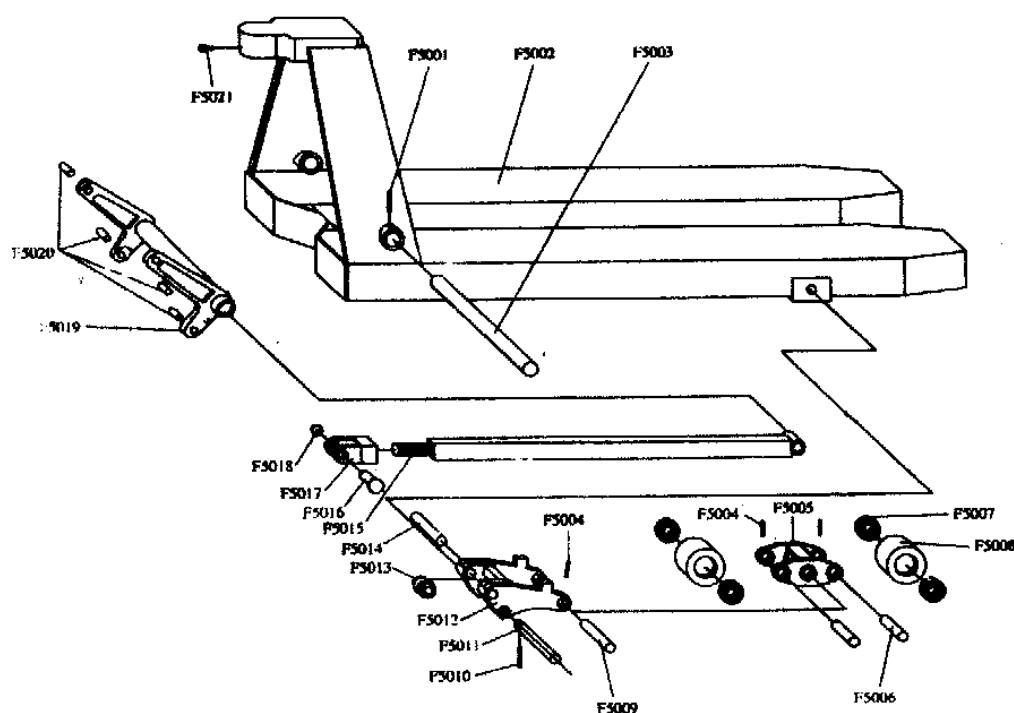


PARTS LIST PUMP

Part Number	Description		Qty.
PM10-P-5001	Steel Ball	5001	1
PM10-P-5002	Rod	5002	1
PM10-P-5003	Dust Proof Ring	5003	1
PM10-P-5004	O-Ring	5004	1
PM10-P-5005	Cylinder	5005	1
PM10-P-5006	O-Ring	5006	1
PM10-P-5007	Washer	5007	1
PM10-P-5008	Seal Ring	5008	1
PM10-P-5009	Spring Pin	5009	1
PM10-P-5010	Crank Link	5010	1
PM10-P-5011	Pump Rod	5011	1
PM10-P-5012	Spring Washer	5012	1
PM10-P-5013	Spring Cover	5013	1
PM10-P-5014	Big Spring	5014	1
PM10-P-5015	Dust Proof Ring	5015	1
PM10-P-5016	O-Ring	5016	1
PM10-P-5017	Pump Cylinder	5017	1
PM10-P-5018	Seal Ring	5018	1
PM10-P-5019	Nylon Bushing	5019	1
PM10-P-5020	Red Copper Washer	5020	1
PM10-P-5021	Spring Pin	5021	1
PM10-P-5022	Cylinder	5022	1
PM10-P-5023	Bushing	5023	1
PM10-P-5024	Bearing	5024	1
PM10-P-5025	Spring Pin	5025	2
PM10-P-5026	Rhombus Plate	5026	1
PM10-P-5027	Dowel Pin	5027	2
PM10-P-5028	Retaining Ring	5028	1
PM10-P-5029	Retaining Ring	5029	2
PM10-P-5030	Bearing	5030	4
PM10-P-5031	Iron Wheel	5031	2
PM10-P-5032	Steering Wheel Axle	5032	1
PM10-P-5033	Spring Pin	5033	2
PM10-P-5034	Pin	5034	2
PM10-P-5035	O-Ring	5035	1

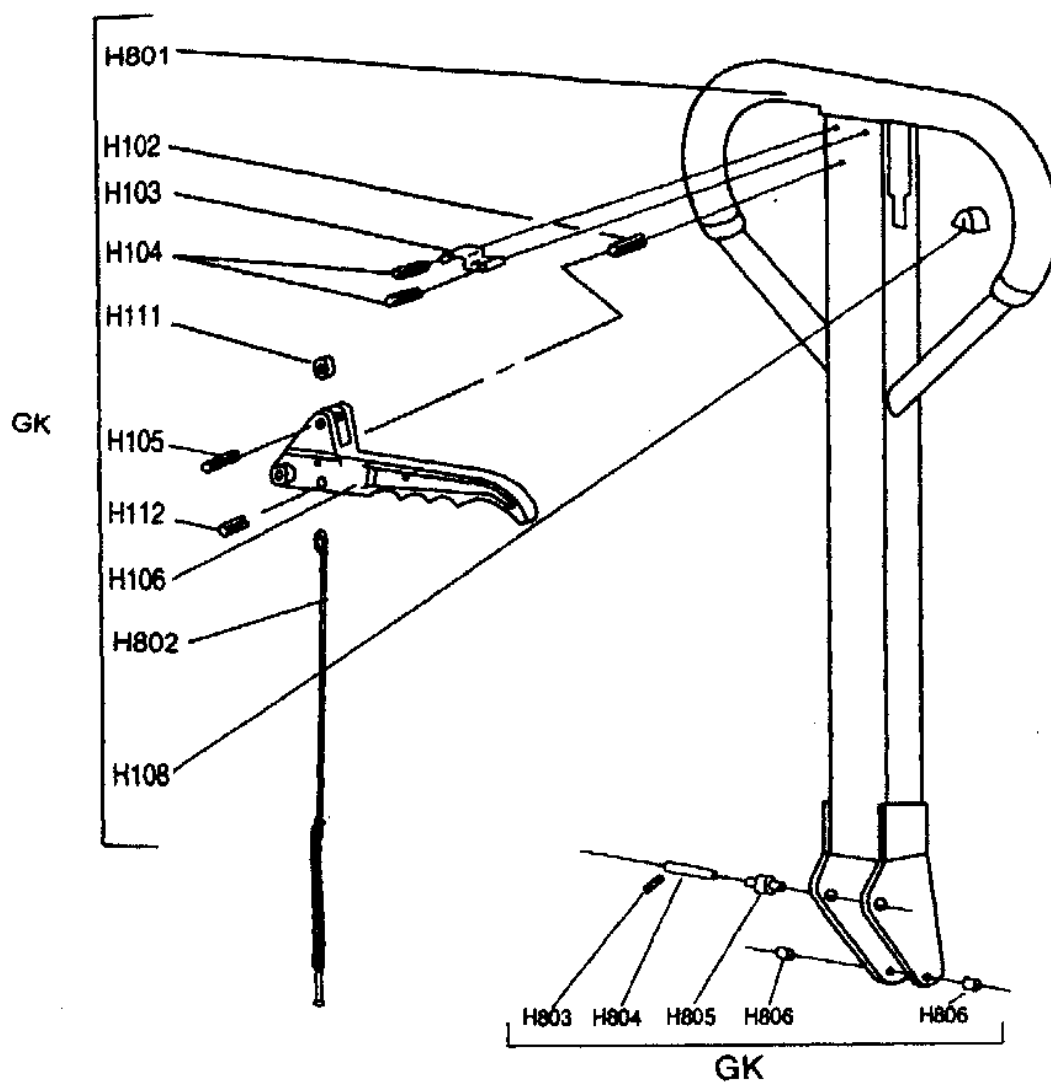
Part Number	Description		Qty.
PM10-P-110	Screw	110	1
PM10-P-111	Red Copper Washer	111	1
PM10-P-112	Spring	112	1
PM10-P-113	Pressure Rod	113	1
PM10-P-114	Steel Ball	114	1
PM10-P-115	Pressure Vavle body	115	1
PM10-P-116	Split Ring	116	1
PM10-P-117	O-Ring	117	2
PM10-P-118	Red Copper Washer	118	2
PM10-P-119	Steel Needle	119	1
PM10-P-129	Steel Ball	129	1
PM10-P-130	Discharge Vavle Body	130	1
PM10-P-131	Spring	131	1
PM10-P-132	O-Ring	132	1
PM10-P-133	Discharge Vavle Body	133	1
PM10-P-134	Vavle Taper Core	134	1
PM10-P-135	Spring	135	1
PM10-P-136	Pressure regulating screw	136	1
PM10-P-137	O-Ring	137	2
PM10-P-138	Screw	138	2
PM10-P-140H	Setting Screw	140H	1
PM10-P-141	Nut	141	1
PM10-P-166	Retainer	166	3
PM10-P-167	Retainer	167	1
PM10-P-5000	Pump Unit	5000	1

Frame Assembly



PARTS LIST FRAME

Part Number	Description	MFG. Number	Qty.
PM10-F-F5001	Spring Pin	F5001	1
PM10-F-F5002	Frame (580)	F5002	1
PM10-F-F5003	Torsion Tube Shaft -580	F5003	1
PM10-F-F5004	Spring Pin	F5004	6
PM10-F-F5005	H-Link	F5005	2
PM10-F-F5006	Load Roller Axle	F5006	4
PM10-F-F5007	Bearing	F5007	8
PM10-F-F5008	Load Roller	F5008	4
PM10-F-F5009	H-Link Axle	F5009	2
PM10-F-F5010	Parallel Pin	F5010	2
PM10-F-F5011	Roller Axle	F5011	2
PM10-F-F5012	Wheel Frame	F5012	2
PM10-F-F5013	Roller Axle	F5013	2
PM10-F-F5014	Axle	F5014	2
PM10-F-F5015	Rod	F5015	2
PM10-F-F5016	Pin	F5016	2
PM10-F-F5017	Fork joint	F5017	2
PM10-F-F5018	Retaining Ring	F5018	2
PM10-F-F5019	Torsion Tube Assembly - 580	F5019	1
PM10-F-F5020	Bushing	F5020	4
PM10-F-F5021	Hex socket screw	F5021	1



PARTS LIST HANDLE

Part Number	Description	MFG. Number	Qty.
PM10-H-H801	Handle	H801	1
PM10-H-H802	Rod and Chain	H802	1
PM10-H-H803	Set Screw	H803	1
PM10-H-H804	Shaft	H804	1
PM10-H-H805	Steel Roller	H805	1
PM10-H-H806	Bushing	H806	2
PM10-H-H102	Spring Pin	H102	1
PM10-H-H103	Spring Leaf	H103	1
PM10-H-H104	Spring Pin	H104	2
PM10-H-H105	Spring Pin	H105	1
PM10-H-H106	Control Lever	H106	1
PM10-H-H108	Rubber Cushion	H108	1
PM10-H-H111	Nylon Roller	H111	1
PM10-H-H112	Spring Pin	H112	1
PM10-H-GK	Handle Mounting Kit	GK	1
PM10-H-HCA	Handle Assembly	HCA	1

LIMITED WARRANTY

Vestil Manufacturing Corporation ("Vestil") warrants this product to be free of defects in material and workmanship during the warranty period. *Our warranty obligation is to provide a replacement for a defective original part if the part is covered by the warranty, after we receive a proper request from the warrantee (you) for warranty service.*

Who may request service?

Only a warrantee may request service. *You are a warrantee if* you purchased the product from Vestil or from an authorized distributor AND Vestil has been fully paid.

What is an "original part"?

An original part is a part used to make the product as shipped to the warrantee.

What is a "proper request"?

A request for warranty service is proper if Vestil receives: 1) a photocopy of the Customer Invoice that displays the shipping date; AND 2) a written request for warranty service including your name and phone number. Send requests by any of the following methods:

Mail
Vestil Manufacturing Corporation
2999 North Wayne Street, PO Box 507
Angola, IN 46703

Fax
(260) 665-1339
Phone
(260) 665-7586

Email
sales@vestil.com

In the written request, list the parts believed to be defective and include the address where replacements should be delivered.

What is covered under the warranty?

After Vestil receives your request for warranty service, an authorized representative will contact you to determine whether your claim is covered by the warranty. Before providing warranty service, Vestil may require you to send the entire product, or just the defective part or parts, to its facility in Angola, IN. The warranty covers defects in the following *original* dynamic components: motors, hydraulic pumps, electronic controllers, switches and cylinders. It also covers defects in *original* parts that wear under normal usage conditions ("wearing parts"), such as bearings, hoses, wheels, seals, brushes, and batteries.

How long is the warranty period?

The warranty period for original dynamic components is 1 year. For wearing parts, the warranty period is 90 days. The warranty periods begin on the date when Vestil ships the product to the warrantee. If the product was purchased from an authorized distributor, the periods begin when the distributor ships the product. Vestil may, at its sole discretion, extend the warranty periods for products shipped from authorized distributors by *up to* 30 days to account for shipping time.

If a defective part is covered by the warranty, what will Vestil do to correct the problem?

Vestil will provide an appropriate replacement for any *covered* part. An authorized representative of Vestil will contact you to discuss your claim.

What is not covered by the warranty?

1. Labor;
2. Freight;
3. Occurrence of any of the following, which automatically voids the warranty:
 - Product misuse;
 - Negligent operation or repair;
 - Corrosion or use in corrosive environments;
 - Inadequate or improper maintenance;
 - Damage sustained during shipping;
 - Collisions or other incidental contacts causing damage to the product;
 - Unauthorized modifications: DO NOT modify the product IN ANY WAY without first receiving written authorization from Vestil. Modification(s) might make the product unsafe to use or might cause excessive and/or abnormal wear.

Do any other warranties apply to the product?

Vestil Manufacturing Corp. makes no other express warranties. All implied warranties are disclaimed to the extent allowed by law. Any implied warranty not disclaimed is limited in scope to the terms of this Limited Warranty.

