

Please read and save these instructions. Read carefully before attempting to assemble, install, operate or maintain the product described. Protect yourself and others by observing all safety information. Failure to comply with instructions could result in personal injury and/or property damage! Retain instructions for future reference.

Dayton® Hydraulic Hand Pallet Truck

Description

Dayton 4-directional hand hydraulic pallet truck, Model 5NP21, is a manually operated industrial duty product. This pallet truck is designed to move a load in the traditional way, and it is also designed to allow the pallet to be moved in a direction perpendicular to the forks. The maximum weight that can be lifted is 5,500 lbs. or 3,000 lbs. depending on direction. Safety features include an overload bypass valve and a pressure compensated flow valve for controlled lowering. A hand actuated control lever for selecting "raise," "neutral" and "lower" positions is standard.

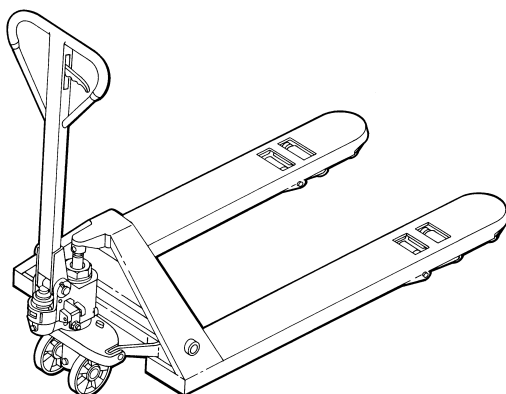


Figure 1

Specifications

Up/Down Control	Hand Actuated
Front Wheels per Fork	Perpendicular, Load, Exit
Steering Wheels	Steel Hub w/ Polyurethane Coating
Strokes to Raised Height	12
Push Rods	Solid Steel – Adjustable Length
Forks	Steel — 7" wide
Steering Radius	210°
Handle Return	Return to Vertical

Unpacking

Refer to Replacement Parts Illustration and Replacement Parts List to aid in identifying parts. Unpack and separate all components from container, making

sure all parts are accounted for. If damage is evident, notify delivering carrier immediately and file necessary claims.

Dimensions

Load Capacity Normal	Sideways	Lowered Height of forks	Raised Height	Overall Width Across Forks	Fork Width	Fork Length	Overall Length	Weight
5,500 lbs.	3,000 lbs.	27/8"	73/4"	27"	7"	48"	62"	210 lbs.

General Safety Information

In order to have a trouble free pallet truck, it is important to take caution during usage to ensure a long service life.

1. Inspect the pallet truck for transit damage before operation. Carefully read all manuals included with this product **before** putting into service. Be thoroughly familiar with the controls and the proper use of the pallet truck.
2. Never overload the pallet truck. Stay within the rated capacity of the truck.
3. Distribute the load evenly on the forks — do not concentrate loads at one point, or load one fork more than the other.
4. Be especially cautious when using the pallet truck to move or set machinery. It is very easy to make the mistake of lifting at points that will develop concentrated or unbalanced loads that can damage the pallet truck.
5. Do not allow loaded pallet truck to drop from one floor level to another. Even a drop of one inch results in a "shock", which can bend or break components.
6. The pump's piston rod and lifting ram are polished with a hardened chrome-plate finish to provide maximum seal life and minimize oil leakage. Do not allow these surfaces to be nicked or pitted by abuse. Slight oil wetting of the external part of the piston is normal, as in all hydraulic

Dayton® Hydraulic Hand Pallet Truck

General Safety Information (Continued)

systems. This oil film provides lubrication between the polished surfaces and the seals through which they pass. Do not be alarmed at a trace of oil, even on new units.

7. Always remove load before making repairs. Completely immobilize pallet truck before working on components that might pinch fingers or hands if movement were allowed.
8. Never allow anyone to ride a pallet truck "scooter style". All heavy material handling equipment should be operated with the utmost regard for the safety of oneself and others.
9. Never leave a loaded pallet truck unattended.
10. Always lower forks when trucking is completed.
11. Avoid abrasive or corrosive environments and/or materials that may tend to spill onto pallet truck parts.

Assembly

HANDLE ASSEMBLY

1. Remove roll pin, and handle shaft from pump body (See Figure 2).
2. Insert handle assembly into pump body with Up/Down control oriented to right.
3. Install handle shaft into pump body, fixing handle in position. Secure in position with roll pin. Rotate handle shaft until through hole is vertical.
4. Feed chain (included in handle assembly) through hole in handle shaft. Attach chain to lowering lever (See Figure 3).
5. Lower handle. Remove shipping pin holding cylinder.

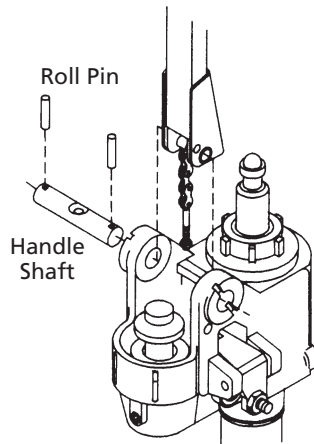


Figure 2 – Handle Assembly

6. Position Up/Down control in LOWER or "up" position (See Figure 5). Pump handle several times to release air from pump.

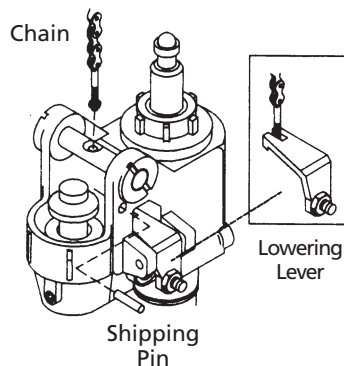


Figure 3 – Lowering Lever

FORK ADJUSTMENT

If the forks descend quickly after elevating, or forks rise when Up/Down control lever is in neutral position, adjust as follows: (See Figure 4)

1. Unlock set screw, located on lowering lever, by loosening lock nut.

2. Rotate set screw counterclockwise 1/2 turn and retry fork operation. Continue adjusting until satisfactory operation is obtained.
3. Lock set screw into position with lock nut.

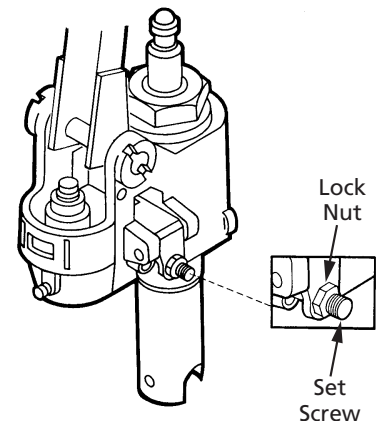


Figure 4 – Lever Adjustment

Operation

The three position control lever is operated as follows: (See Figure 5)

TO RAISE

Insert the forks into the pallet. Move the control lever into the RAISE or "down" position. With an up/down motion, pump the pallet jack up to desired height. Do Not pump pallet up to highest position if pallet will be moved by steering with handle.

NEUTRAL

When finished raising the pallet truck, move control lever into NEUTRAL or "center" position. Move the pallet truck to desired location.

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Operation (Continued)

TO LOWER

Move the control lever into the LOWER or "up" position until desired height has been reached.

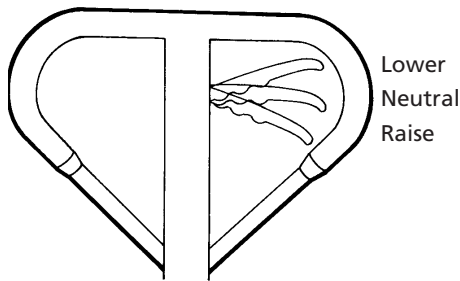


Figure 5 – Control Lever

PERPENDICULAR MOVEMENT

1. Insert the forks into the pallet. Move the control lever into RAISE or "down" position. With an up/down motion, pump the pallet up to the fully raised position.
2. Rotate handle to either side and lock pump assembly in position with Arm Detent. Pull detent up and rotate 90° until pin drops into hole located in Base. (See Figure 6).

NOTE: Pallet will only move perpendicular to forks when pallet is fully raised.

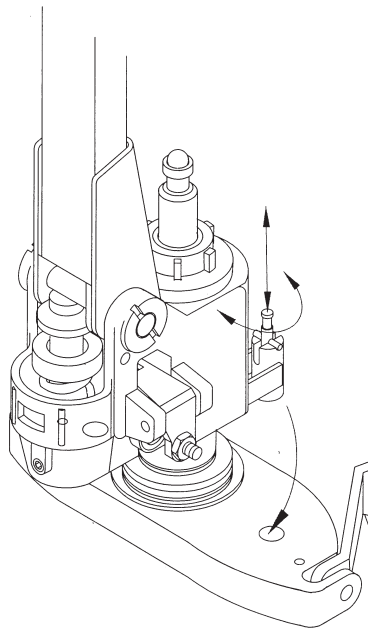


Figure 6 – Arm Detent

Maintenance

All bushings and bearings have been lubricated at the factory. To increase their life, it is suggested that regular maintenance be performed. Using the appropriate grease for the environment, lubricate each grease fitting every 6 months. Harsh environments may require more frequent maintenance.

DAILY

Visually check and do not use if any of the following are visible:

1. Oil leaks.
2. Structural deformation of arms, forks, or any other component.
3. Unusual noise or binding of the lifting mechanism.

MONTHLY

1. Check hydraulic oil level (more frequently for high use applications). See "Adding Hydraulic Oil" section.
2. Verify that all labels are in place and in good condition.
3. Clean off dirt and debris.

YEARLY

Change oil (more frequently if color has substantially darkened or feels gritty).

NOTE: If hydraulic oil is milky white in color, water is in the hydraulic system. Change the hydraulic oil immediately.

ADDING HYDRAULIC OIL TO PUMP RESERVOR

NOTE: Use standard hydraulic oil.

Refer to Figure 8.

CAUTION *Pallet truck is heavy, use proper safety equipment and ask for help lifting the truck.*

1. Ensure forks are in lowered position.
2. Remove fill plug.
3. Add hydraulic oil until level of oil is at bottom of hole.
4. Replace fill plug.

Dayton® Hydraulic Hand Pallet Truck

Troubleshooting Chart

Symptom	Possible Cause(s)	Corrective Action
Forks will not rise when handle is pumped	<ol style="list-style-type: none"> 1. Control lever is not in the RAISE or "down" position 2. Air has entered the hydraulic system 3. Low oil level 4. Worn or damaged seals 5. Load exceeds capacity of unit 	<ol style="list-style-type: none"> 1. Move control lever into the RAISE or "down" position and pump handle 2. Move control lever into the LOWER or "up" position and pump handle several times to bleed air from system 3. Add hydraulic oil, see "Maintenance" section 4. Order replacement seal groups 5. Ensure load does not exceed 5,500 lbs.
Forks rise when control lever is in the NEUTRAL or "center" position	<ol style="list-style-type: none"> 1. Control lever is not in Neutral or "center" position 2. Neutral position adjustment required 	<ol style="list-style-type: none"> 1. Move control lever into the NEUTRAL or "center" position 2. See "Fork Adjustment" section for procedure
Forks cannot be lowered to the minimum height	<ol style="list-style-type: none"> 1. Too much hydraulic oil 2. Push rods damaged 	<ol style="list-style-type: none"> 1. Drain small amount of hydraulic oil and retry. See "Adding Hydraulic Oil" section for drain plug location 2. Replace push rods
Difficult to move pallet	<ol style="list-style-type: none"> 1. Perpendicular wheels dragging 2. Pallet raised too high for standard movement 	<ol style="list-style-type: none"> 1. Replace four springs (Ref No 33 Fig 7) 2. Lower pallet until perpendicular wheels are not contacting floor
Handle will not turn	Handle locked in perpendicular position	Release arm detent. See "Perpendicular Movement" section for procedure

For Repair Parts, call 1-800-323-0620

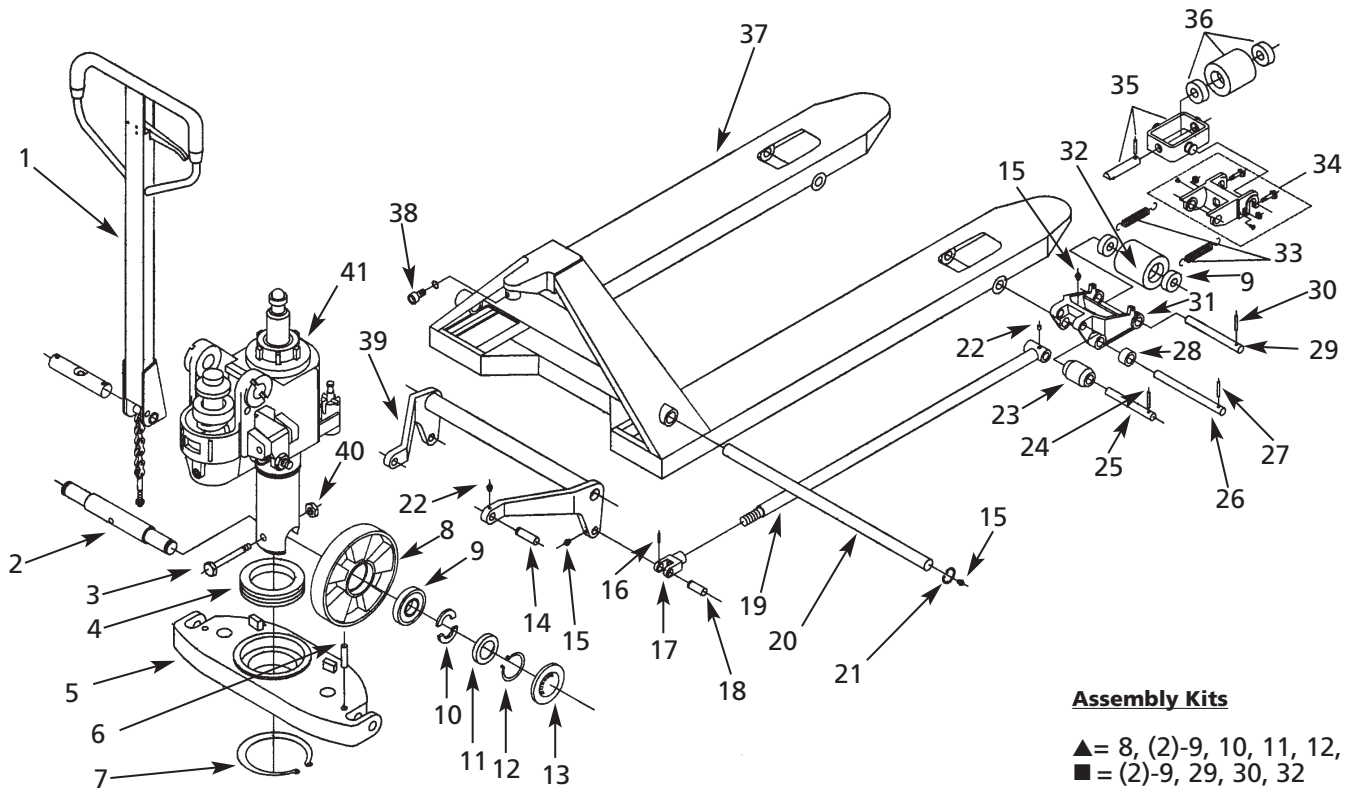
24 hours a day – 365 days a year

Please provide following information:

-Model number
-Serial number (if any)
-Part description and number
as shown in parts list

Address parts correspondence to:

Grainger Parts
P.O. Box 3074
1657 Shermer Road
Northbrook, IL 60065-3074 U.S.A.



Assembly Kits

▲ = 8, (2)-9, 10, 11, 12, 13
■ = (2)-9, 29, 30, 32

Figure 7 – Repair Parts Illustration for General Assembly

Repair Parts List for General Assembly

Ref. No.	Description	Part No. for 5NP21	Qty.	Ref. No.	Description	Part No. for 5NP21	Qty.
1	Handle assembly (See Figure 8)	97-1	1	23	Exit Wheel	97-23	2
2	Wheel shaft	97-2	1	24	Roll pin	97-24	2
3	Bolt	97-3	1	25	Push pin	97-25	2
4	Bearing	97-4	1	26	Exit axle	97-26	2
5	Base	21-5	1	27	Roll pin	97-27	2
6	Roll pin	97-6	2	28	Spacer	97-28	4
7	Snap ring	97-7	1	29	Lift axle	■	2
8	Wheel -main	▲	2	30	Roll pin	■	2
9	Bearing	6L026 ▲, ■	8	31	Wheel bracket	21-31	2
10	Split washer	▲	2	32	Lift wheel	■	2
11	Washer	▲	2	33	Spring	21-33	4
12	Snap ring	▲	2	34	Secondary Bracket	21-34	2
13	Wheel cap	97-13 ▲	2	35	Perpendicular Bracket	21-35	2
14	Pin	97-14	2	36	Perpendicular Wheel	21-36	2
15	Oiler	97-15	10	37	Fork base	97-37	2
16	Roll pin	97-16	2	38	Screw	97-38	1
17	Rod end	97-17	2	39	Rocker arm	97-39	1
18	Pin	97-18	2	40	Nut	97-40	1
19	Push rod	97-19	2	41	Hydraulic Pump (See Figure 8); page 6	21-41	1
20	Rocker shaft	97-20	1	▲	Main Wheel Kit	97-42	1
21	Snap ring	97-21	2	■	Lift Wheel Kit	21-43	1
22	Oiler	97-22	2				

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24 hours a day – 365 days a year

Please provide following information:

- Model number
- Serial number (if any)
- Part description and number as shown in parts list

Address parts correspondence to:

Grainger Parts
P.O. Box 3074
1657 Shermer Road
Northbrook, IL 60065-3074 U.S.A.

Assembly Kits

- ▲ = 101–108
- = 117–122
- = 126–129
- ◆ = 131–135
- ▼ = 140–141, 143–144
- = 147–149
- △ = 150–151
- † = 159–161

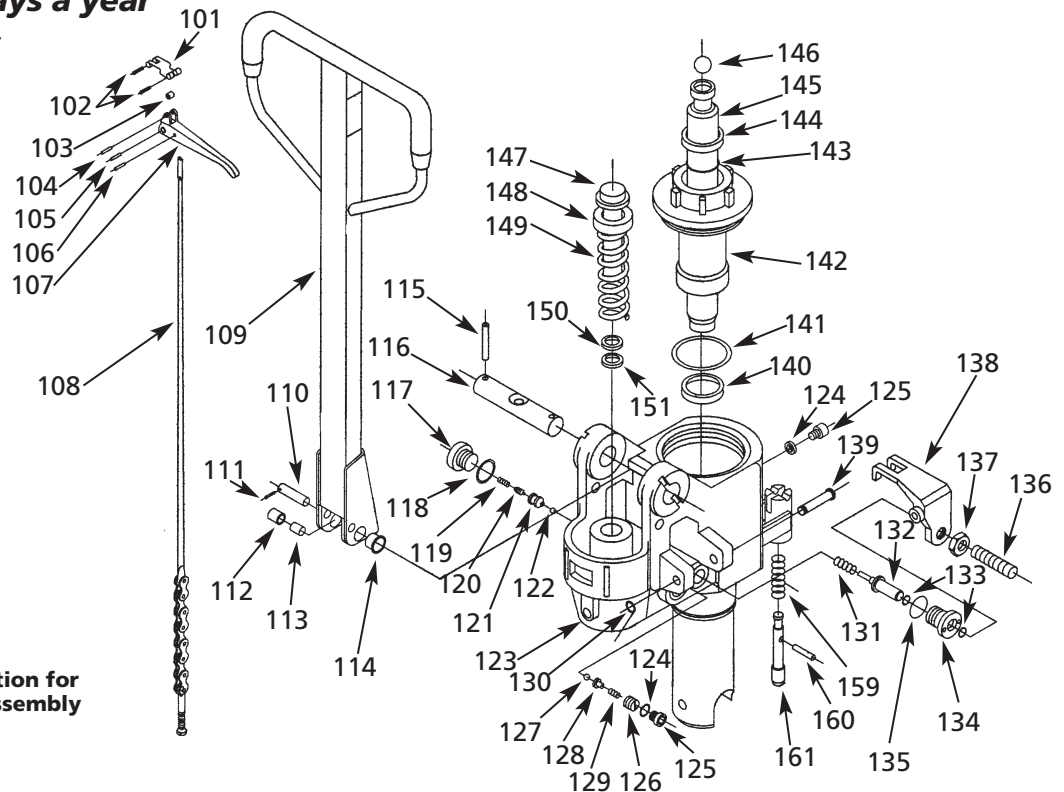


Figure 8 – Repair Parts Illustration for Handle and Hydraulic Pump Assembly

Repair Parts List for Handle and Pump Detail Assembly

Ref. No.	Description	Part No. for 5NP21	Qty.	Ref. No.	Description	Part No. for 5NP21	Qty.
Following included in Ref. No. 1 (See Figure 7)				131	Spring	◆	1
101	Spring plate	▲	1	132	Strike pin	◆	1
102	Roll pin	▲	2	133	O-ring	◆	2
103	Roller	▲	1	134	Sleeve	◆	1
104	Roll pin	▲	1	135	O-ring	◆	1
105	Roll pin	▲	1	136	Set screw	97-136	1
106	Roll pin	▲	1	137	Nut	97-137	1
107	Control lever	▲	1	138	Lowering lever	97-138	1
108	Plunger	▲	1	139	Pin	97-139	1
109	Handle body	97-109	1	140	Seal	▼	1
110	Shaft	97-110	1	141	O-ring	▼	1
111	Roll pin	97-111	1	142	Cylinder cap	97-142	1
112	Roller	97-112	1	143	O-ring	▼	1
113	Bushing	97-113	1	144	Seal	▼	1
114	Bushing	97-114	2	145	Piston rod	97-145	1
Following included in Ref. No. 41 (See Fig. 7)				146	Steel ball	97-146	1
115	Roll pin	97-115	2	147	Plunger	□	1
116	Handle shaft	97-116	1	148	Spring cap	□	1
117	Plug	■	1	149	Spring	□	1
118	Washer	■	1	150	Seal	△	1
119	Spring	■	1	151	Seal	△	1
120	Valve spindle	■	1	159	Spring	†	1
121	Valve seat	■	1	160	Pin	†	1
122	Steel ball	■	1	161	Detent Pin	†	1
123	Pump body	21-123	1	Assemblies and Seal kits			
124	Copper washer	97-124	2	▲	Up/Down control assembly	97-152	1
125	Screw	97-125	2	■	Control valve assembly	97-153	1
126	Screw	•	1	●	Plunger valve assembly	97-154	1
127	Steel ball	•	1	◆	Pump valve assembly	97-155	1
128	Ball base	•	1	▼	Piston seal kit	97-156	1
129	Spring	•	1	□	Plunger assembly	97-157	1
130	Snap ring	97-130	1	△	Plunger seal kit	97-158	1
				†	Detent Pin assembly	21-162	1

Model 5NP21

LIMITED WARRANTY

DAYTON LIMITED TWO-YEAR WARRANTY. Frame and mechanical components for Model 5NP21 are warranted by Dayton Electric Mfg. Co., (Dayton) to the original user against defects in workmanship or material under normal use for 2 years from the date of purchase. Hydraulic unit is warranted for 3 years. Warranty does not cover usage in cold storage, brine corrosive or similar application.

DAYTON 90-DAY LIMITED WARRANTY. Wheels, bearings and bushings for Model 5NP21 are warranted by Dayton Electric Mfg. Co. (Dayton) to the original user against defects in workmanship or materials under normal use for 90 days after the date of purchase. For limited warranty claim procedures, see PROMPT DISPOSITION below. This limited warranty gives purchasers specific legal rights which vary from jurisdiction to jurisdiction.

LIMITATION OF LIABILITY. To the extent allowable under applicable law, Dayton's liability for consequential and incidental damages is expressly disclaimed. Dayton's liability in all events is limited to and shall not exceed the purchase price paid.

WARRANTY DISCLAIMER. Dayton has made a diligent effort to provide product information and illustrate the products in this literature accurately; however, such information and illustrations are for the sole purpose of identification, and do not express or imply a warranty that the products are MERCHANTABLE, or FIT FOR A PARTICULAR PURPOSE, or that the products will necessarily conform to the illustrations or descriptions. Except as provided below, no warranty or affirmation of fact, expressed or implied, other than as stated in the "LIMITED WARRANTY" above is made or authorized by Dayton.

PRODUCT SUITABILITY. Many jurisdictions have codes and regulations governing sales, construction, installation, and/or use of products for certain purposes, which may vary from those in neighboring areas. While Dayton attempts to assure that its products comply with such codes, it cannot guarantee compliance, and cannot be responsible for how the product is installed or used. Before purchase and use of a product, review the product applications, and all applicable national and local codes and regulations, and be sure that the product, installation, and use will comply with them.

Certain aspects of disclaimers are not applicable to consumer products; e.g., (a) some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you; (b) also, some jurisdictions do not allow a limitation on how long an implied warranty lasts, consequentially the above limitation may not apply to you; and (c) by law, during the period of this Limited Warranty, any implied warranties of implied merchantability or fitness for a particular purpose applicable to consumer products purchased by consumers, may not be excluded or otherwise disclaimed.

PROMPT DISPOSITION. Dayton will make a good faith effort for prompt correction or other adjustment with respect to any product which proves to be defective within limited warranty. For any product believed to be defective within limited warranty, first write or call dealer from whom the product was purchased. Dealer will give additional directions. If unable to resolve satisfactorily, write to Dayton at address below, giving dealer's name, address, date, and number of dealer's invoice, and describing the nature of the defect. Title and risk of loss pass to buyer on delivery to common carrier. If product was damaged in transit to you, file claim with carrier.

Manufactured for Dayton Electric Mfg. Co., 5959 W. Howard St., Niles, Illinois 60714 U.S.A.