

XD 60[™] Power Rewind Hose Reel for Portable Hydraulic Power Packs

333087A

EΝ

Used with portable hydraulic power packs for circulation of hydraulic fluid.

Not for use with gasoline or other flammable fluid. Not approved for use in hazardous or explosive atmosphere locations. For professional use only.

NOTICE

System depressurization is required prior to hose extension or retraction. The reel will not retract when it is pressurized.

Model: 24U744

12 VDC

Maximum Working Pressure: 4000 psi (276 bar, 27.6

MPa)

Recommended Hose Length: 1 inch x 60 feet



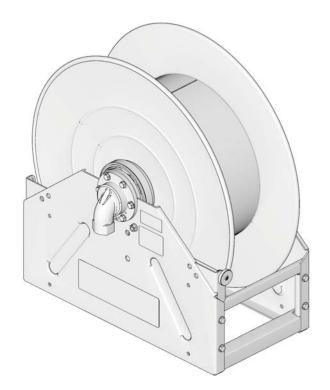




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Graco Information

Warnings

The following warnings are for the setup, use, grounding, maintenance, and repair of this equipment. The exclamation point symbol alerts you to a general warning and the hazard symbols refer to procedure-specific risks. When these symbols appear in the body of this manual or on warning labels, refer back to these Warnings. Product-specific hazard symbols and warnings not covered in this section may appear throughout the body of this manual where applicable.

WARNING



FIRE AND EXPLOSION HAZARD

When flammable fluids are present in the work area, such as gasoline and windshield wiper fluid, be aware that flammable fumes can ignite or explode. To help prevent fire and explosion:



- Use equipment only in well ventilated area.
- Eliminate all ignition sources, such as cigarettes and portable electric lamps.
- Keep work area free of debris, including rags and spilled or open containers of solvent and gasoline.
- Do not plug or unplug power cords or turn lights on or off when flammable fumes are present.
- · Ground all equipment in the work area.
- · Use only grounded hoses.
- Stop operation immediately if static sparking occurs or you feel a shock. Do not use equipment until you identify and correct the problem.
- Keep a working fire extinguisher in the work area.



SKIN INJECTION HAZARD

High-pressure fluid from dispensing device, hose leaks, or ruptured components will pierce skin. This may look like just a cut, but it is a serious injury that can result in amputation. **Get immediate surgical treatment.**



- Do not point dispensing device at anyone or at any part of the body.
- Do not put your hand over the fluid outlet.
 - Do not stop or deflect leaks with your hand, body, glove, or rag.
 - Follow the Pressure Relief Procedure when you stop dispensing and before cleaning, checking, or servicing equipment.
 - Tighten all fluid connections before operating the equipment.
 - Check hoses and couplings daily. Replace worn or damaged parts immediately.

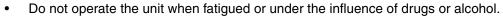


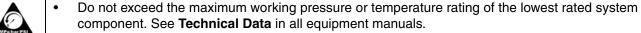
WARNING



EQUIPMENT MISUSE HAZARD

Misuse can cause death or serious injury.





- Use fluids and solvents that are compatible with equipment wetted parts. See Technical Data in all
 equipment manuals. Read fluid and solvent manufacturer's warnings. For complete information
 about your material, request MSDS from distributor or retailer.
- Do not leave the work area while equipment is energized or under pressure.
- Turn off all equipment and follow the **Pressure Relief Procedure** when equipment is not in use.
- Check equipment daily. Repair or replace worn or damaged parts immediately with genuine manufacturer's replacement parts only.
- Do not alter or modify equipment. Alterations or modifications may void agency approvals and create safety hazards.
- Make sure all equipment is rated and approved for the environment in which you are using it.
- Use equipment only for its intended purpose. Call your distributor for information.
- Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces.
- Do not kink or over bend hoses or use hoses to pull equipment.
- Keep children and animals away from work area.
- Comply with all applicable safety regulations.



MOVING PARTS HAZARD

Moving parts can pinch, cut or amputate fingers and other body parts.



- Keep clear of moving parts.
- Do not operate equipment with protective guards or covers removed.
- Pressurized equipment can start without warning. Before checking, moving, or servicing equipment, follow the **Pressure Relief Procedure** and disconnect all power sources.



TOXIC FLUID OR FUMES HAZARD

Toxic fluids or fumes can cause serious injury or death if splashed in the eyes or on skin, inhaled, or swallowed.

- Read MSDSs to know the specific hazards of the fluids you are using.
- Store hazardous fluid in approved containers, and dispose of it according to applicable guidelines.



PERSONAL PROTECTIVE EQUIPMENT

Wear appropriate protective equipment when in the work area to help prevent serious injury, including eye injury, hearing loss, inhalation of toxic fumes, and burns. This protective equipment includes but is not limited to:

- Protective eye wear, and hearing protection.
- Respirators, protective clothing, and gloves as recommended by the fluid and solvent manufacturer

Installation

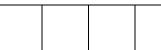
Installation Notes

- Before installing the hose reel, inspect it for shipping damage.
- The following user supplied materials are needed for installation:
 - Insulated cable rated for use with motor amperage (See Technical Data, page 21).
 - Insulated ring terminal and wire nut connectors
 - Union fitting
 - Flexible inlet supply hose
- A flexible supply hose connection must be used between the hose reel inlet and the source of the fluid supply to prevent possible misalignment and binding during operation.

Grounding







The reel must be bonded (grounded) directly to the truck (Fig. 1). For non-mobile installation locations the reel must be grounded. Grounding reduces the risk of static shock due to static build up on the equipment.

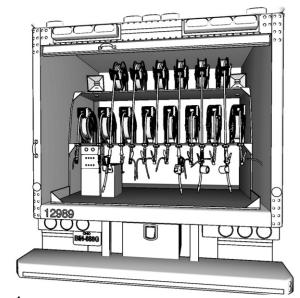


Fig. 1

Typical Layout

The installation shown in Fig. 2 is only a guide. Contact your Graco distributor for assistance in designing a system to suit your needs.

Truck-bed or Floor

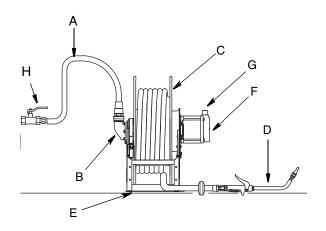
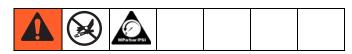


Fig. 2

Key:

- A From Fluid Pump
- B Fluid Inlet
- C Hose Reel
- D Dispense Valve
- E Mounting Base
- F Reel Rewind Motor
- G Reel Motor Power Supply
- H Fluid Shut Off Valve (required)

Inlet Orientation



- If reel has been in service, relieve pressure, page 15.
- 2. **ALWAYS** verify that power to hose reel is disconnected. See Disconnecting Motor Power Source for Electric Power Rewind Motors, page 16.

For the following steps, refer to Fig. 3.

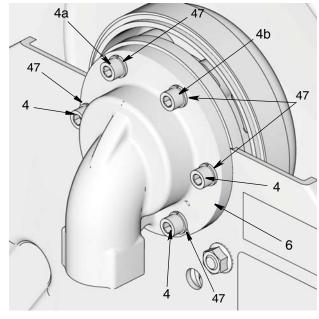


Fig. 3

- 3. Remove bolts (4) and lock washers (47).
- 4. Remove and rotate swivel (6) to desired location.

NOTE: The swivel can be rotated and set to 6 possible positions.

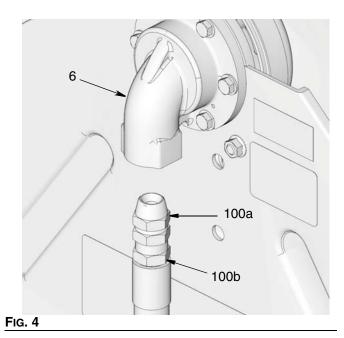
- 5. First install the top 2 bolts (4a and 4b) and lock washers (47) as shown in Fig. 3. Tighten bolts just enough to hold everything in place.
- 6. Then install the remaining bolts (4) and lock washers (47). Hand tighten and then torque all bolts to 25 to 35 ft. lbs (33.9 to 47.45 N•m).

Installing Inlet Hose

NOTICE

A flexible hose connection must be used between the hose reel inlet and the fluid supply hose to prevent possible misalignment and binding during operation.

- 1. Apply pipe thread sealant or wrap PTFE tape around the threads of a union (100a).
- 2. Attach union adapter to inlet (6) (Fig. 4).
- 3. Apply pipe thread sealant or wrap PTFE tape around the threads (6) of inlet hose (100b) (Fig. 4) (if needed).
- 4. Attach union adapter (100a) to inlet hose (100b) (Fig. 4). Use a wrench to tighten the connection.
- 5. Use a wrench to support the inlet fitting while tightening the adapter.



Powering the Hose Reel

The hose reel must be installed before powering the reel.

Required Accessories:

- Insulated wire: Size wire per amperage on motor name plate. In higher amperage applications, use larger wire to prevent voltage drop.
- Solenoid.
- Momentary push button.
- Circuit breaker: Size circuit breaker per amperage on motor name plate and insulated wire rating.
- Ring terminals and wire nuts.

Instructions

- 1. Disconnect battery.
- 2. Follow wiring diagram provided in Fig. 5 and Wiring Schematic provided in Fig. 6.
- 3. Connect battery.
- 4. Verify motor rotation (see Reversing Motor Rotation, page 11).

Wiring Diagram

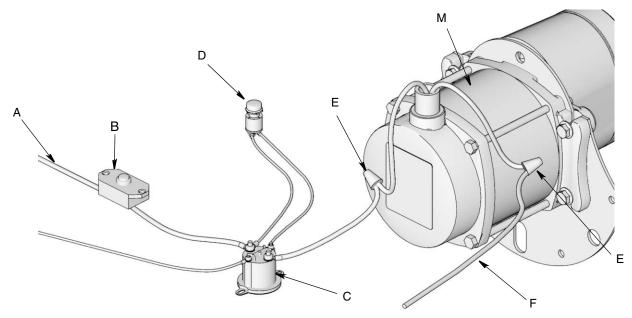


Fig. 5

- A Motor cable to battery (positive terminal)
- B Circuit breaker
- C Solenoid
- D Momentary push button switch

- E Wire nut
- F Cable to battery (negative terminal)
- M Motor

Wiring Schematic

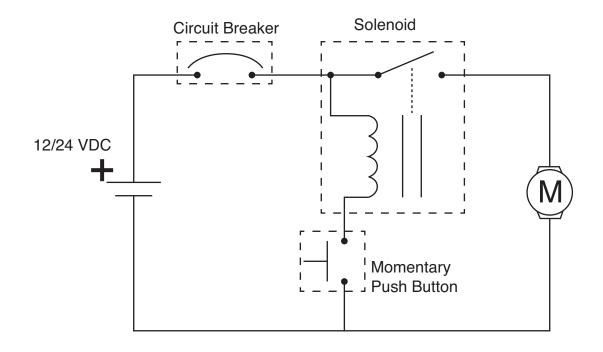
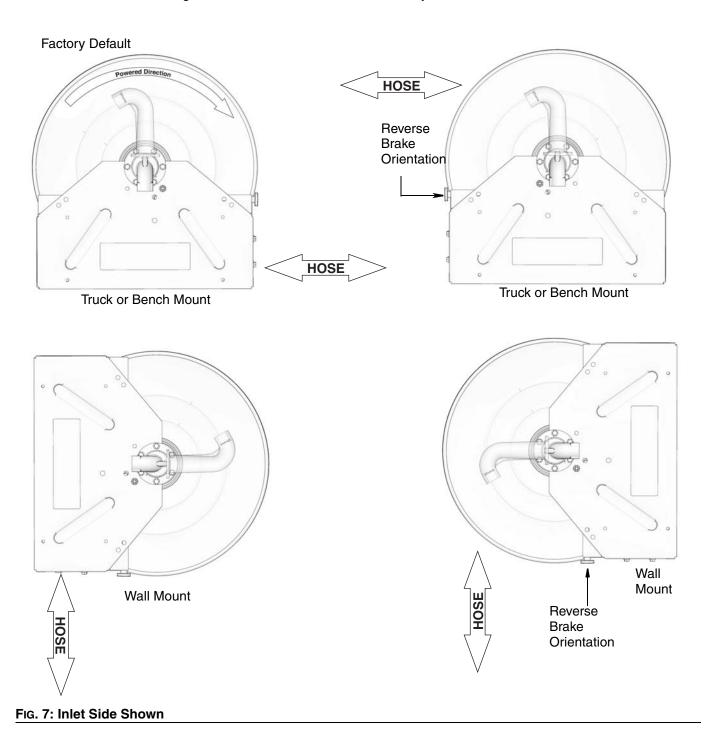


Fig. 6

Outlet Orientation and Motor Rotation

The outlet (17) orientation and motor (26) rotation can be altered as shown in Fig. 7-Fig. 8.

In the configurations shown in Fig. 7 the motor turns counter-clockwise under power when viewed from the motor side of the reel. All four configurations shown in Fig. 7 have the factory standard motor rotation and outlet orientation.



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In the configurations shown in Fig. 8 the motor turns clockwise under power when viewed from the motor side of the reel. All four configurations shown in Fig. 8 require motor (26) rotation reversal and outlet (17) reversal.

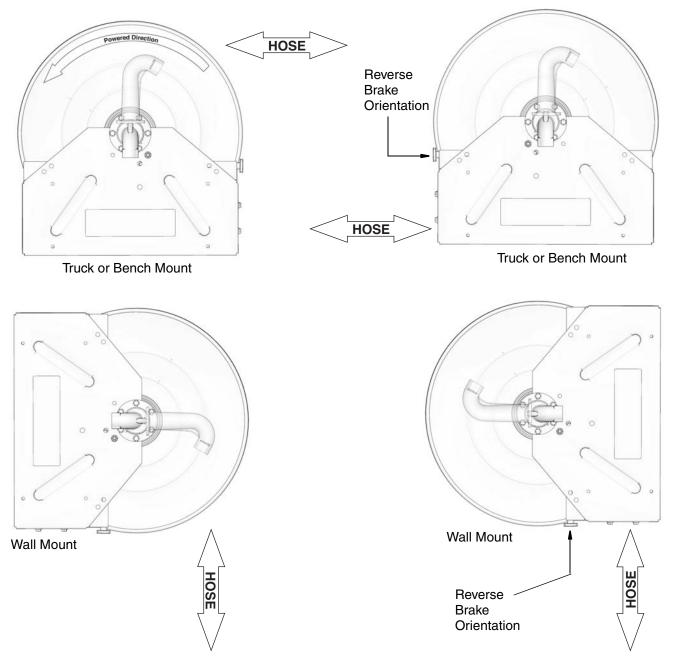


Fig. 8: Inlet Side Shown

Reversing Motor Rotation

The following instructions are for first time installations only. If your hose reel has been in service, the hose must be removed from the reel prior to preforming his procedure. See instructions for removing the hose from the reel, in the XD 60, XD 70, XD 80 Powered Hose Reel Repair manual.

- 1. Reverse direction of outlet (17).
 - a. Remove bolts (19) and outlet (17) from reel (Fig. 9).

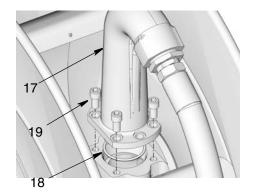


Fig. 9

Turn outlet (17) 180° as shown in Fig. 10.

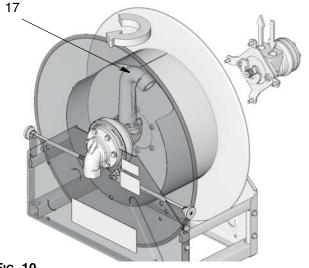


Fig. 10

- Apply a light coating of grease to the o-ring (18).
- Install outlet (17) on reel.

- Reinstall bolts (19). Tighten all four bolts securely. Torque bolts to 24 to 30 ft. pounds (32.54 to 40.67 N.m)
- 2. Reverse motor direction by swapping leads exiting directly from motor (Fig. 6, page 8).
- 3. Reverse brake orientation (if needed). See Changing Brake Location, page 12.

Motor Brake

Adjusting the Brake

The hose reel is equipped with a brake. The brake can be used to:

- Secure the reel and hold it stationary when in transit.
- Create resistance to help user maintain control of the hose when unwinding the hose from reel.

Turn brake knob (41) (Fig. 11) left or right to loosen or tighten the brake tension.

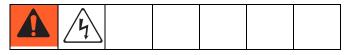
- Turn knob (41) to the right to increase / tighten brake tension.
- Turn knob (41) to the left to decrease / loosen brake tension.



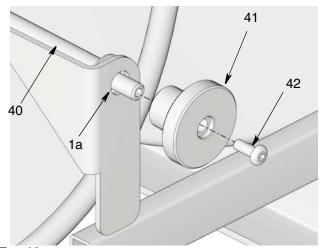
FIG. 11

Changing Brake Location

For some installation locations, it may be necessary to change the location of the brake.



- 1. Disconnect power to hose reel.
- Turn knob (41) counter-clockwise to remove brake tension.
- 3. Loosen and remove screw (42) from end of knob (41) (Fig. 12).



- Fig. 12
- 4. Remove knob (41) from end of rod (40) (Fig. 12).
- 5. Loosen and remove nut (24) and pull band clip (34a) off anchor pin (37).

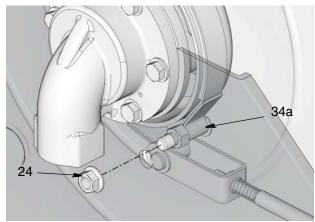


Fig. 13

Remove clip (36) from anchor pin (37) (Fig. 14).

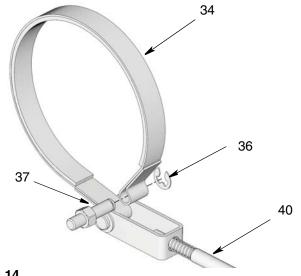


FIG. 14

- 7. Remove (37) from band (34) (Fig. 14).
- 8. Remove band (34) from brake hub (12).
- 9. Pull end of rod (40) out of frame (1a) (Fig. 12).
- 10. Rotate entire brake assembly 180° (Fig. 15).

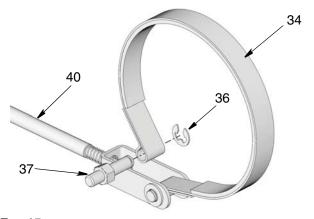


FIG. 15

- 11. Install band (34) around brake hub (12).
- 12. Install anchor pin (37) through (34) making sure clip end is in position shown in Fig. 15.
- 13. Reinstall clip (36) (Fig. 15).
- 14. Feed end of rod (40) through hole (27b) (Fig. 12).
- 15. Reinstall knob (41) over end of rod (40). Install screw (42). Tighten screw securely to hold knob in place (Fig. 12).

16. Install anchor pin (37) to frame (Fig. 16). Reinstall nut (24) over anchor pin (37) and tighten securely (Fig. 16).

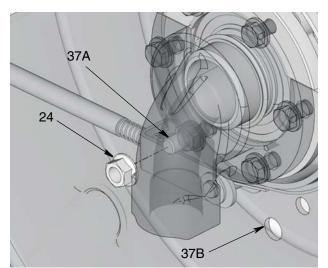


Fig. 16: 37A shows the new location of anchor pin (37). 37B shows the previous location of anchor pin (37).

17. Turn knob (41) to adjust tension as needed.

Mounting Options

All Mountings

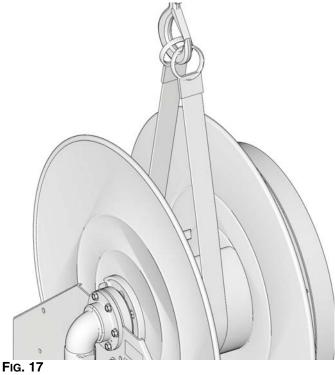
NOTE:

- Always use large flat washers and four, 3/8 inch diameter bolts to mount the hose reel pedestal to the surface.
- Adjust inlet orientation prior to installing the hose reel. See Inlet Orientation, page 6.
- The maximum recommended installation height is 8 feet (2.4 meters)

Lifting Hose Reel

Always use a hoist or other suitable lifting device to raise hose reel into position.

Secure a lifting strap around spool as shown in Fig. 17. or place a strap over the inlet and motor as shown in Fig. 18. See Technical Data (page 21) for hose reel weights.



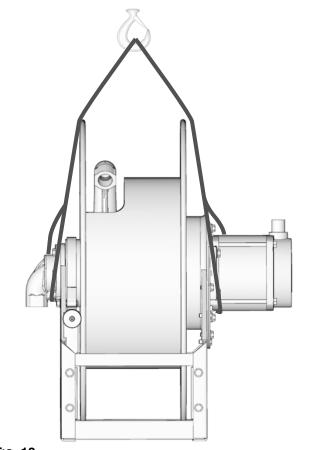
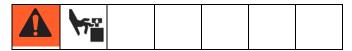


FIG. 18

Hose Installation

NOTE: The hose reel must be installed and the power connected before hose is installed.

The following instructions are for first time installations only. If your hose reel has been in service and you are <u>replacing</u> the hose, see the XD 60, XD 70, XD 80 Powered Hose Reel Repair manual for instructions.



- 1. Disconnect motor power source. See Disconnecting Motor Power Source, page 16.
- 2. Remove bolts (19) and outlet (17) from reel (Fig. 19).

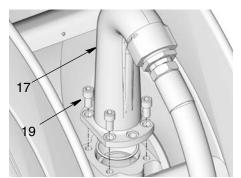


FIG. 19

- Determine correct orientation for outlet (17) for your installation location. Refer to Outlet Orientation and Motor Rotation, Fig. 7, page 9 and Fig. 8, page 10.
- 4. Apply pipe thread sealant or wrap hose threads with PTFE tape.
- 5. Attach end of the hose to the outlet (17) using two wrenches on the flats, working in opposite directions, to securely tighten the hose to the outlet fitting (Fig. 20).

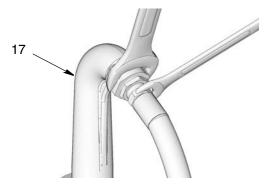


FIG. 20

6. Reinstall outlet (17) to spool. Replace and tighten bolts (19) securely. Torque bolts to 24 to 30 ft. pounds (32.54 to 40.67 N.m) (Fig. 21).

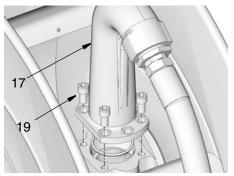


Fig. 21

- 7. Flush system by pumping dispensing fluid through line until all solvent has been flushed out (See Flushing instructions, page 15.)
- Connect motor power.
- Actuate button or valve to wind hose onto reel.

NOTICE

System depressurization is required prior to hose extension or retraction. The reel will not retract when it is pressurized.

Flushing











To avoid fire and explosion always ground equipment and waste container. To avoid injury from splashing, always flush at lowest possible pressure.

Before installing dispense valve to end of hose, flush supply line with a solvent compatible with the fluid you are dispensing.

1. Place end of hose in a waste container.



FIG. 22

2. Blow out entire lubricant supply line with air.

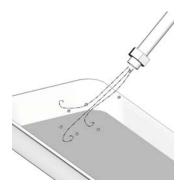


FIG. 23

3. Flush equipment with a compatible solvent until fluid runs clear.



FIG. 24

4. Pump dispensing lubricant through line until all solvent is flushed out.

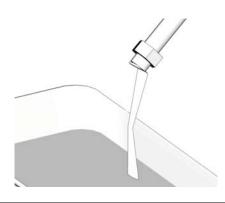


FIG. 25

Pressure Relief Procedure



Follow the Pressure Relief Procedure whenever you see this symbol.











This equipment stays pressurized until pressure is manually relieved. To help prevent serious injury from pressurized fluid, such as skin injection, splashing fluid and moving parts, follow the Pressure Relief Procedure when you stop dispensing and before cleaning, checking, or servicing the equipment.

- 1. Turn off power supply to fluid pump.
- 2. Isolate the supply pump fluid supply line by turning off (closing) the fluid shut off valve (H, page 6).
- Open the dispensing valve until pressure is fully relieved.

If you suspect the dispensing valve or extension is clogged or that pressure has not been fully relieved after following the steps above, VERY SLOWLY loosen coupler or hose end coupling to relieve pressure gradually, then loosen completely. Clear the obstruction.

Operation



SLIPPERY SURFACE HAZARD

Wet, snow-covered or icy surfaces could result in serious injury due to slipping or falling when pulling the hose off the reel. To prevent injury:

- If possible walk on a dry or stable surface.
- If you must walk on a slippery surface, wear proper footwear for better traction.

Unwinding Hose

- Release brake. See Adjusting the Brake instructions, page 11.
- Adjust brake tension as needed to prevent hose from unwinding too fast. See Adjusting the Brake instructions, page 11.
- 3. Pull hose off reel.

Retracting the Hose











To avoid injury:

- Always wear heavy gloves to protect your hands from being cut on the hose or reel.
- Do not grip the hose. Only use your hand to guide the hose as it is retracting.
- To avoid injury, keep your hands away from the frame and spool.

NOTICE

- Relieve hose pressure before retracting hose.
 Retracting a pressurized hose could result in overloading the electric motor or the hose reel.
- To prevent damage to the meter or dispense valve and hose reel, before retracting the hose reel, walk the dispense device back to the reel.
- Disconnect service hose and relieve pressure. Follow pressure relief procedure provided with service attachment and supply pump for your system.
- 2. Turn brake knob (41) to release brake tension. (See Adjusting the Brake instructions, page 11.)

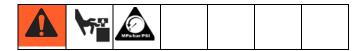
3. Actuate switch or valve to allow the hose to retract.

NOTICE

The duty cycle of electric motors is 5 minutes. To prevent damage to the motor, always allow the motor to return to ambient temperature prior to starting a new duty cycle.

 To adjust retraction speed lightly tap or "bump" the switch

Disconnecting Motor Power Source



Disconnect power to hose reel at main power source.

Troubleshooting











Problem	Cause	Solution
Button or valve is actuated, reel does not operate	External power source is not energized	Check that all power connections are made and in working condition. Tighten any loose connections. Replace broken or damaged parts.
	Power circuits are interrupted or damaged	Check connections for proper routing. Correct routing. Replace broken or damaged parts and fuses.
	Hose or reel spool is jammed	Check that spool will rotate when using your hand to turn it. Unwind hose from spool and use your hand to guide it back onto the spool to avoid stacking problems.
	Motor is not operating	Replace motor module. See Repair manual.
Poor Retraction	Hose too stiff	Use correct hose for application.
		NOTE: Wrapped hoses are more difficult to retract than smooth hoses.
	Excessive swivel friction and hose bending torque	Reduce operating pressure.
	Hose or reel spool is jammed	Check that spool will rotate when using your hand to turn it. Unwind hose from spool and use your hand to guide it back onto the spool to avoid stacking problems.
	Spool bearing failure	Rebuild or replace inlet bearing and/or power shaft bearing. See XD 60, XD 70, XD 80 Power Rewind Hose Reel Repair Manual.
	Brake too tight	Loosen brake tension
	Dispense valve dragging while retracting hose	Walk dispense valve back to reel before retracting hose.
Excessive Hose Extension Forces	Brake is too tight	Loosen brake tension.
	Excessive swivel friction	Reduce operating pressure.
Oil Hoses Only: Pressure increases while winding hose onto reel	Wrapping hose on spool bends hose and increases pressure inside hose	Install pressure relief valve.

Problem	Cause	Solution
Fluid leakage from inlet housing or weep hole	Worn inlet seal	Replace inlet seal. See Inlet / Inlet Seal and O-Ring Replacement instructions provided in the XD 60, XD 70, XD 80 Power Rewind Hose Reel Repair Manual.
	Loose inlet hose	Tighten inlet hose connection
Fluid leakage from outlet seal	Seal failed	Replace outlet seal. See Outlet / Outlet Seal Replacement instructions pro- vided in the XD 60, XD 70, XD 80 Power Rewind Hose Reel Repair Manual.
	Loose service hose	Tighten service hose connection

Parts

Ref	Part No.	Description	Qty
1		BASE	1
2		SPOOL	1
3	16P907	SWIVEL	1
4	555595	SCREW, cap, hex head	6
5		RETAINER, bearing	1
6		SWIVEL, inlet, 1.0 in.	1
7	126787	SEAL, inlet	1
8	126643	RING, retaining, 1.969 shaft	1
9	110963	SCREW, cap, flange head	18
10	126739	SHIM, frame	1
12	126808	HUB, brake	1
13		INSERT, bearing	1
14	16W910	O-RING, 147, buna	1
15	126731	O-RING, 135, buna	1
16	555371	BALL, chrome, stainless steel	21
17		SWIVEL, outlet, 1 in., tall	1
18	105318	PACKING, o-ring	1
19	558673	SCREW, SHCS, 5/16-18 x 0.75	6
20		SHAFT, power	1
21		BRACKET, motor mount	1
22	127151	FLANGE, bearing	2
23	112953	BEARING, ball	1

Ref	Part No.	Description	Qty
24	112958	NUT, hex, flange	3
25	158019	SHIM, washer	1
26	24T886	MOTOR, assembly, 12 VDC	1
27	16V902	PLATE, wear	2
28	111801	SCREW, cap, hex head	4
29	110996	NUT, hex, flange head	4
30	106082	RING, retaining	1
33	112914	WASHER, plain	2
34		BAND, brake	1
35		CLEVIS, brake	1
36	101134	RING, retaining	2
37		PIN, brake, anchor	1
38		PIN, clevis, grooved, 0.375 x 1.65	1
39		SPRING, compression	1
40	16U506	ROD, brake	1
41	16W151	KNOB	1
42	555608	SCREW, #10-24 x 0.50 soc	1
43	16T815	LABEL, identification	1
46 ▲	15W036	LABEL, warning	1
47	100214	WASHER	6

[▲] Replacement Danger and Warning labels, tags and cards are available at no cost.

Repair and Accessory Kits

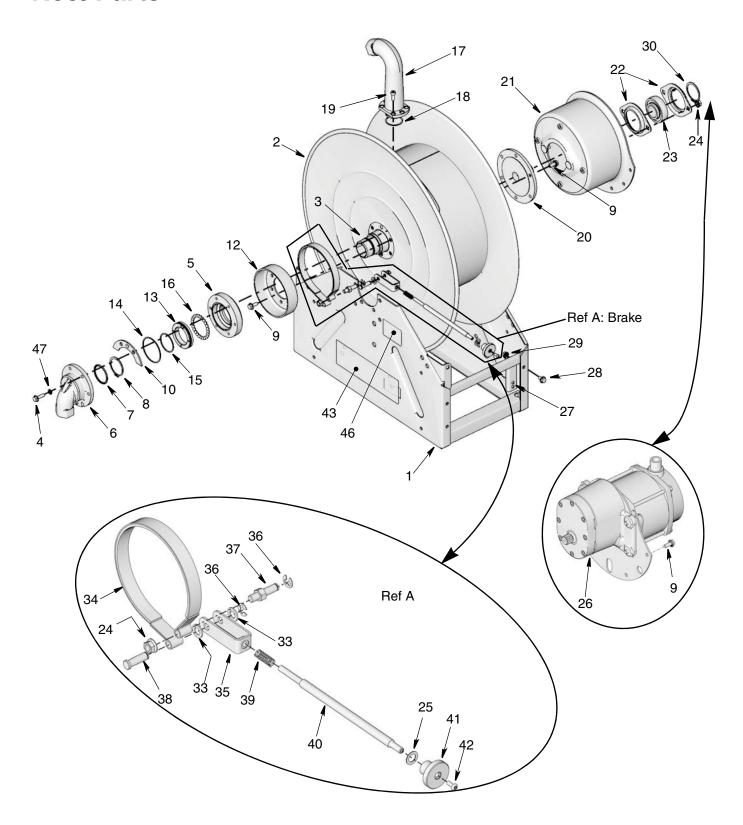
Miscellaneous Kits

Ref	Part No.	Description	Qty
	24U902	KIT, swivel, 1.0 in., includes 4, 6, 7	1
	24U901	KIT, repair, inlet side, includes 4, 5, 8, 13-16	1
	24R056	KIT, outlet, 1 in., npt, includes 17-19	1
	24T338	KIT, power side shaft replacement, includes 9, 20	1
	24T432	KIT, power side bearing replacement, includes 22-24	1
	24T857	KIT, brake repair, includes 24, 33-39	1
	127214	SWITCH, momentary, with cover	1
	127219	CONTACT, 12 VDC, intermittent duty	1
	127221	CIRCUIT BREAKER, 50 AMP	1
	24R072	KIT, roller guide with bracket	1
	24T335	KIT, arms, with roller guide	1

Motor Kit (26)

Ref	Part No.	Description	Qty
	24T886	MOTOR, assembly, 12 VDC, includes:	
	112785	SCREW, hex head	4
26	126991	• MOTOR, 12 VDC, 1/2 HP, 650 rpm	1
	16U141	PLATE, motor mount, black	1
	24P951	KIT, GEAR REDUCER	1

Reel Parts

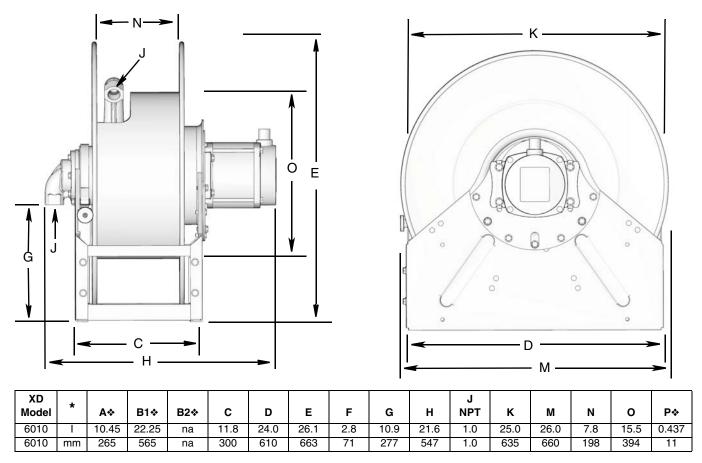


Technical Data

	US	Metric		
Maximum Service Fluid Working Pressure	4000 psi	276 bar, 27.6 MPa		
Operating Temperature				
Hydraulic Supply Line Applications	-40°F to 180°F	-40°C to 82°C		
Inlet/Outlet Sizes				
XD 6010	1 in. npt(f)	1 in. npt(f)		
Materials of Construction				
Reel wetted materials	nickel plated cast iron, cast iron, Buna-N rubber, polyethylene			
Weight				
XD 6010	134 lbs	60 kg		
Noise (dBa)				
Electric Motors Sound Pressure Level†	<80 dBa			
Notes				
† Measured at a distance of 1 meter from me tion/extension rate of 20 spool revolutions		D 9614-2 @ an assumed retrac-		
	per minute.			

Electric Motors: 12 VDC, 1/2 hp				
	US	Metric		
Operating Voltage	12 VDC			
Rating Current	53 Amps			
Rated Speed	650 RPM			
Rated Power	0.5 hp	0.4 kw		

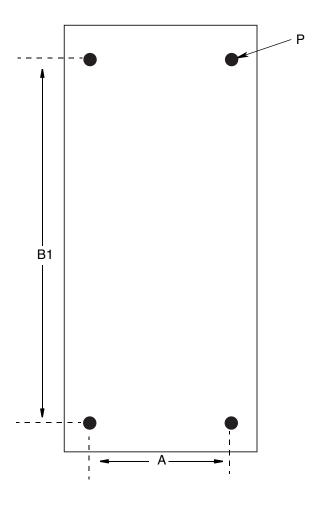
Dimensions (inches)



- * Measurement: I = Inch; mm = millimeters
- ♦ See Mounting Hole Pattern, page 23

Mounting Hole Pattern

XD60



Graco XD 60 Hose Reel Warranty

Graco warrants all equipment referenced in this document which is manufactured by Graco and bearing its name to be free from defects in material and workmanship on the date of sale to the original purchaser for use. With the exception of any special, extended or limited warranty published by Graco, Graco will, for a period as defined in the table below from the date of sale, repair or replace equipment covered by this warranty and determined by Graco to be defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with Graco's written recommendations.

Component	Warranty Period
Wear parts, including but not limited to: hose, swivel seals, roller guide, bearings, latch, gear drive, motors	12 months
Hose reel frame: welded base and spool only	84 months

This warranty does not cover, and Graco shall not be liable for general wear and tear, or any malfunction, damage or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of non-Graco component parts. Nor shall Graco be liable for malfunction, damage or wear caused by the incompatibility of Graco equipment with structures, accessories, equipment or materials not supplied by Graco, or the improper design, manufacture, installation, operation or maintenance of structures, accessories, equipment or materials not supplied by Graco.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized Graco distributor for verification of the claimed defect. If the claimed defect is verified, Graco will repair or replace free of charge any defective parts. The equipment will be returned to the original purchaser transportation prepaid. If inspection of the equipment does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which charges may include the costs of parts, labor, and transportation.

THIS WARRANTY IS EXCLUSIVE, AND IS IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.

Graco's sole obligation and buyer's sole remedy for any breach of warranty shall be as set forth above. The buyer agrees that no other remedy (including, but not limited to, incidental or consequential damages for lost profits, lost sales, injury to person or property, or any other incidental or consequential loss) shall be available. Any action for breach of warranty must be brought within 48 months of the date of sale, or 24 months for all other parts.

GRACO MAKES NO WARRANTY, AND DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, IN CONNECTION WITH ACCESSORIES, EQUIPMENT, MATERIALS OR COMPONENTS SOLD BUT NOT MANUFACTURED BY GRACO. These items sold, but not manufactured by Graco (such as electric motors, switches, hose, etc.), are subject to the warranty, if any, of their manufacturer. Graco will provide purchaser with reasonable assistance in making any claim for breach of these warranties.

In no event will Graco be liable for indirect, incidental, special or consequential damages resulting from Graco supplying equipment hereunder, or the furnishing, performance, or use of any products or other goods sold hereto, whether due to a breach of contract, breach of warranty, the negligence of Graco, or otherwise.

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For the latest information about Graco products, visit www.graco.com.

TO PLACE AN ORDER, contact your Graco distributor or call to identify the nearest distributor. **Phone:** 612-623-6928 **or Toll Free:** 1-800-533-9655, **Fax:** 612-378-3590

All written and visual data contained in this document reflects the latest product information available at the time of publication.

Graco reserves the right to make changes at any time without notice.

For patent information, see www.graco.com/patents.

Original instructions. This manual contains English. MM 333087

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