

DC12 Tandem Pump Option

312897A

For use with the DC12 High-Volume Metering System.

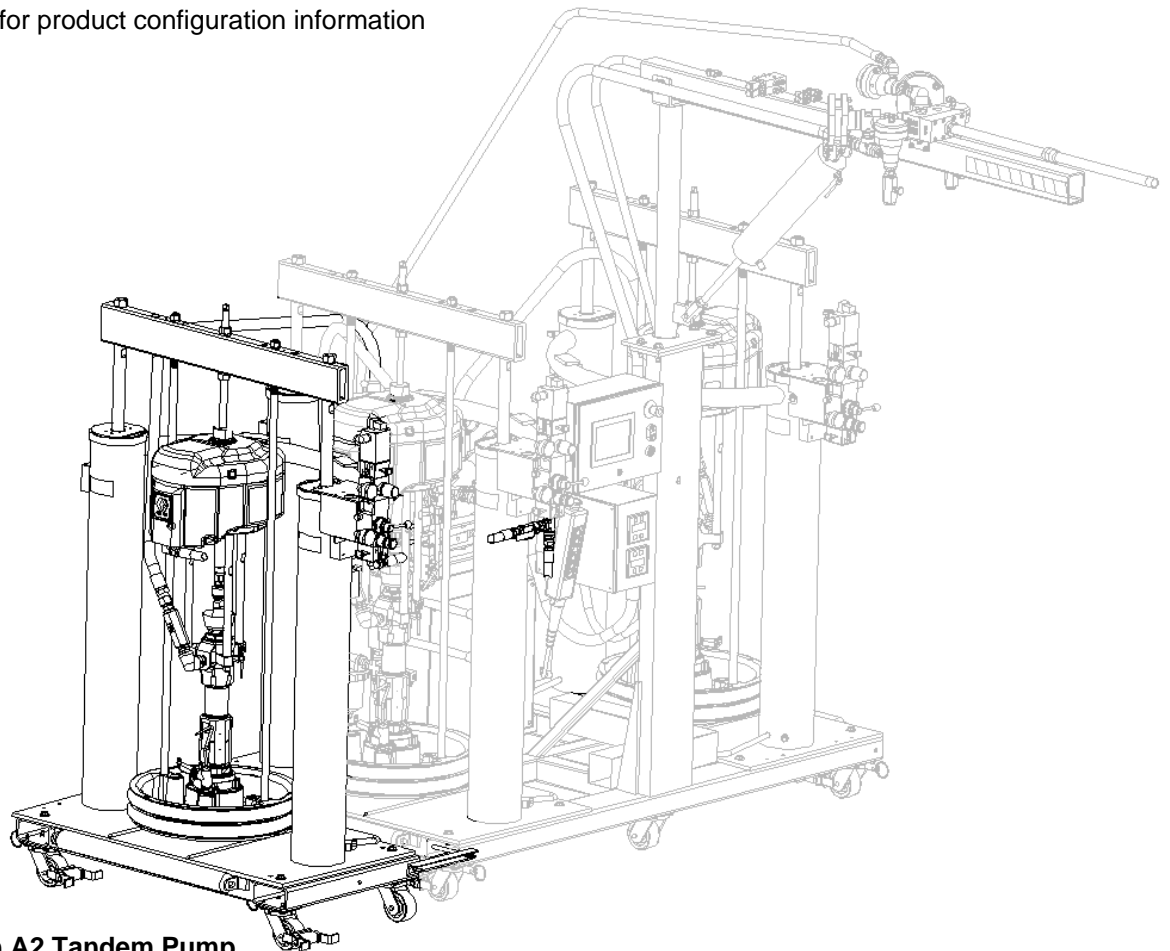
100 psi (0.7 Mpa, 7 bar) Maximum Air Inlet Pressure
2500 psi (17.2 Mpa, 172 bar) Maximum Working Pressure
Not designed for use in Explosive Atmospheres.



Important Safety Instructions

Read all warnings and instructions in this and all supplied manuals. Save these instructions.

See page 3 for product configuration information



Shown with A2 Tandem Pump



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Manuals

Supplied Manuals

The following manuals will be supplied with the Tandem Option.

Refer to these documents for detailed machine information.

Tandem Operation - Maintenance	
Part	Description
312897	Operation and Maintenance

Related Manuals





The following manuals are for standard components used on the DC12

Refer to these documents for detailed machine information.

DC12 Operation	
Part	Description
312767	Manual, Operation DC12
DC12 Repair	
Part	Description
312896	Manual, Repair DC12
Dispense Valve, DC12	
Part	Description
310551	Manual, 3/4 Ball Seat Applicator
310550	Manual, 1/2 Ball Seat Applicator
Supply Systems	
Part	Description
312371	Supply System Operation Manual
312373	Supply System Repair-Parts Manual
312468	200 cc Pump Lower
312469	250 cc Pump Lower
312470	500 cc Pump Lower

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 symbol refers to procedure-specific risk. Refer back to these warnings. Additional, product-specific warnings may be found throughout the body of this manual when applicable.

⚠ WARNING	
	<p>ELECTRIC SHOCK HAZARD</p> <p>Improper grounding, setup, or usage of the system can cause electric shock.</p> <ul style="list-style-type: none"> • Turn off and disconnect power cord before servicing equipment. • Use only grounded electrical outlets. • Connect only to grounded power source. • Do not expose to rain. Store indoors. • All electrical wiring must be done by qualified electrician and comply with all local codes and regulations.
	<p>SKIN INJECTION HAZARD</p> <p>High-pressure fluid from dispense valve, 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.</p> <ul style="list-style-type: none"> • Do not point dispense valve at anyone or at any part of the body. • Do not put your hand over the end of the dispense nozzle. • Do not stop or deflect leaks with your hand, body, glove, or rag. • Follow Pressure Relief Procedure in this manual, when you stop spraying and before cleaning, checking, or servicing equipment.
	<p>TOXIC FLUID OR FUMES HAZARD</p> <p>Toxic fluids or fumes can cause serious injury or death if splashed in the eyes or on skin, inhaled, or swallowed.</p> <ul style="list-style-type: none"> • Read MSDS's 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. • Always wear impervious gloves when spraying or cleaning equipment.
	<p>FIRE AND EXPLOSION HAZARD</p> <p>Flammable fumes, such as solvent and paint fumes, in work area can ignite or explode. To help prevent fire and explosion:</p> <ul style="list-style-type: none"> • Use and clean equipment only in well ventilated area. • Eliminate all ignition sources; such as pilot lights, cigarettes, portable electric lamps, and plastic drop cloths (potential static arc). • Keep work area free of debris, including solvent, rags and gasoline. • Do not plug or unplug power cords or turn lights on or off when flammable fumes are present. • Ground equipment, personnel, object being sprayed, and conductive objects in work area. See Grounding instructions. • Use only Graco grounded hoses. • Check gun resistance daily. • If there is static sparking or you feel a shock, stop operation immediately. Do not use equipment until you identify and correct the problem. • Do not flush with gun electrostatics on. Do not turn on electrostatics until all solvent is removed from system. • Keep a working fire extinguisher in the work area.

Warnings

WARNING



EQUIPMENT MISUSE HAZARD

Misuse can cause death or serious injury.

- Do not operate the unit when fatigued or under the influence of drugs or alcohol.
- Do not exceed the maximum working pressure or temperature rating of the lowest rated system component. See **Technical Data** in all equipment manuals.
- 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 forms from distributor or retailer.
- Check equipment daily. Repair or replace worn or damaged parts immediately with genuine manufacturer's replacement parts only.
- Do not alter or modify equipment.
- 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 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** in this manual. Disconnect power or air supply.



PERSONAL PROTECTIVE EQUIPMENT

You must wear appropriate protective equipment when operating, servicing, or when in the operating area of the equipment to help protect you from serious injury, including eye injury, inhalation of toxic fumes, burns, and hearing loss. This equipment includes but is not limited to:

- Protective eyewear
- Clothing and respirator as recommended by the fluid and solvent manufacturer
- Gloves
- Hearing protection

Overview

System Description

The Tandem Supply Option is designed to allow a user to load 2 drums of material during machine setup. When one drum reaches the low level sensor the system performs an automatic crossover, shutting off the air supply to the pump on the empty ram and activating the pump on the full ram.

The Tandem Supply used on a DC12 is intended to provide continuous feed until both drums are empty.

Drum Change requires dispensing to stop while the pump lower is primed for the next cross over. See Drum Change Section of this manual.

The Tandem Supply Option for the DC12 is available in two configurations:

- 1) On 2:1 machines the Tandem Supply is added to the A or High Volume component only. The Tandem Pump is labeled A2.
- 2) On 1:1 machines the Tandem Supplies are added for both A and B components. The Tandem pumps are labeled A2 and B2 respectively.



Performance Monitor Plus controls are required to operate the tandem pumps. See Configurator Code C.



Keep Clear of the inactive ram, as automatic crossover may occur unexpectedly. To repair or adjust the ram, first follow all steps of the **Pressure Relief Procedure** located in this manual and DC12 Operation Manual **312767**.

Component Identification

Tandem Components

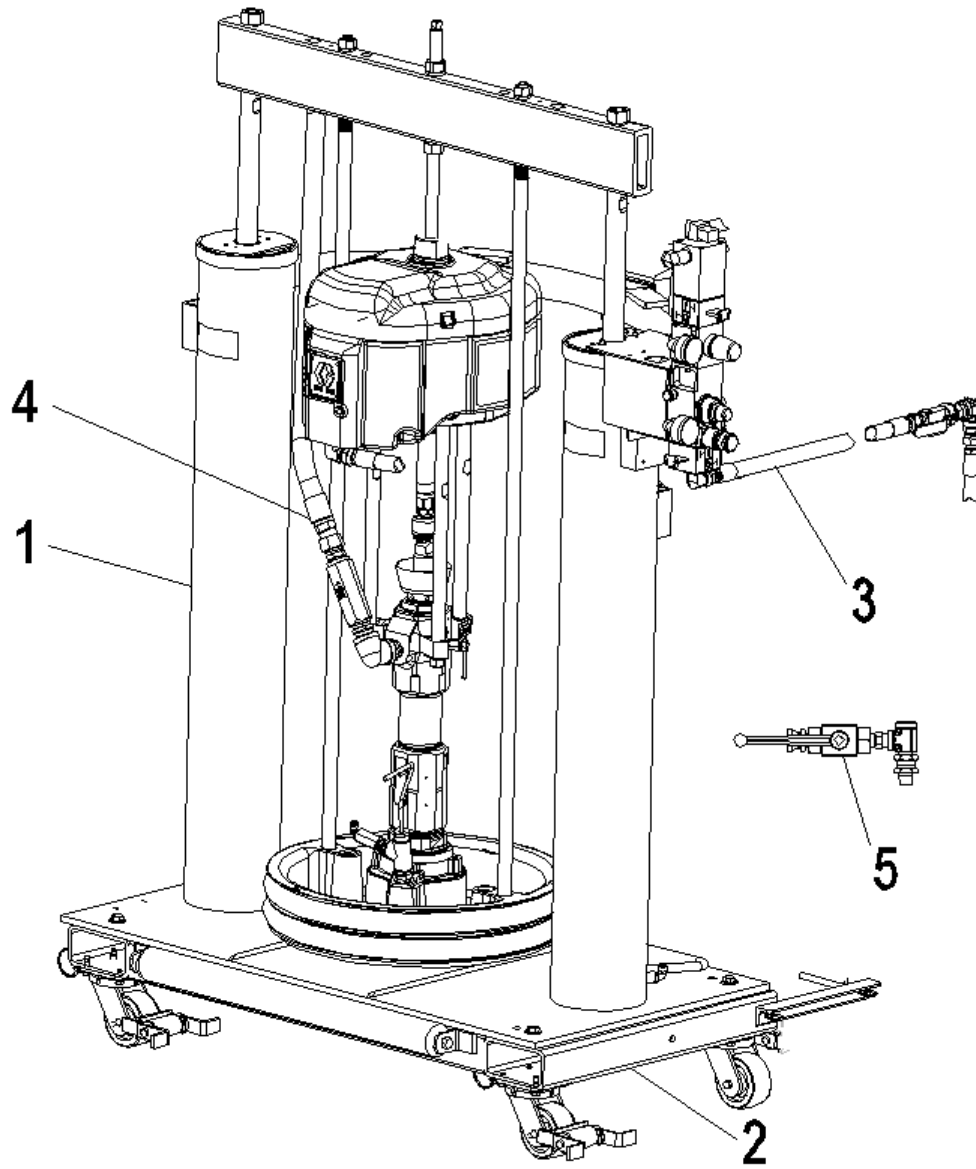



Fig. 1


Main System Parts List

Ref	Description
1	Supply Pump
2	Frame
3	Air Manifold
4	Material Hose
5	Fluid Manifold

 See Configurator Code A for Tandem Options

Performance Monitor Plus

Operator Level Screens

 Performance Monitor Plus includes an electric monitoring package with HMI and pendant station. For additional information on the HMI (Human Machine Interface) features see the **DC12 Operation Manual 312767**.

Supply Pumps

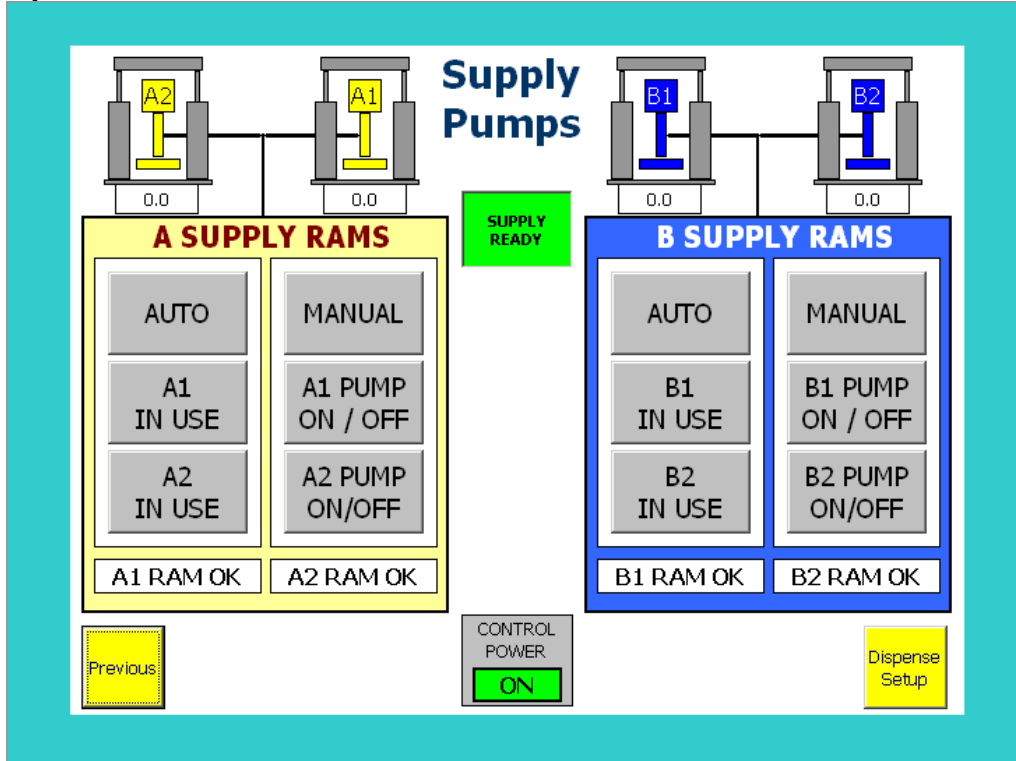


Fig. 2

Key	Description	Key	Description
Auto	A or B Supply Auto Mode	B1 In Use	Select B1 pump in Auto Mode
Manual	A or B supply Manual Mode	B2 In Use	Select B2 pump in Auto Mode
A1 In Use	Select A1 pump in Auto Mode	B1 Ram OK	Status Indicator for Low Level
A2 In Use	Select A2 pump in Auto Mode	B2 Ram OK	Status Indicator for Low Level
A1 Ram OK	Status Indicator for Low Level	B1 Pump ON/OFF	Toggle Button in Manual Mode
A2 Ram OK	Status Indicator for Low Level	B2 Pump ON/OFF	Toggle Button in Manual Mode
A1 Pump ON/OFF	Toggle Button in Manual Mode	Supply Ready	A and B Supply ready indicator
A2 Pump ON/OFF	Toggle Button in Manual Mode	Control Power	Control Power Indicator
Previous	Screen Access Button	Dispense Setup	Screen Access Button

Performance Monitor Plus

Operator Level Screens

Supply Pumps Cont. See Fig. 2

Auto Button – No Tandem pumps

This button is used to put the “A” or “B” Component Supply Pump in the automatic mode (Auto Mode). In the Auto Mode the ram transfer pump will supply material pressure to the DC12 metering pump. When a low level sensor is reached the machine will continue to pump until a preset time has expired. When the shut down time expires the machine will indicate a fault and shut down.

Auto Button – Tandem pumps

This button is used to put the “A” or “B” Component Supply Pump in the automatic mode (Auto Mode). In the Auto Mode the ram transfer pump will supply material pressure to the DC12 metering pump. When a low level sensor is reached the system will switch to the tandem pump. If both supply pumps are low the machine will shut down after the low level shut down timer expires.



When loading material into supply pump it is recommended to prime the pump lower. This requires a short down time during operation. See the **Drum Change** procedure located in this manual.

Manual Button

This button is used to put the “A” or “B” Component Supply Pump in the manual mode. The manual mode is used for start-up, drum change, or maintenance.

A1 In Use Button

This button is used to select the A1 pump to be used during normal operation. The Supply Ready indicator will not turn on until both supplies are in Auto mode and a pump is selected for use.



A fault event, or E-stop will deselect any pump in use. Pump In Use button must be selected to continue operation.

A2 In Use Button

See A1 In Use Button

A1 Pump ON/OFF Button

This button will enable or disable the A1 supply pump when in the manual mode.

A2 Pump ON/OFF Button

See A1 Pump ON/OFF Button

B1 In Use Button

See A1 In Use Button

B2 In Use Button

See A1 In Use Button

B1 Pump ON/OFF Button

This button will enable or disable the B1 supply pump when in the manual mode.

B2 Pump ON/OFF Button

See B1 Pump ON/OFF Button

Performance Monitor Plus

Technician Level Screens

Supply Setup

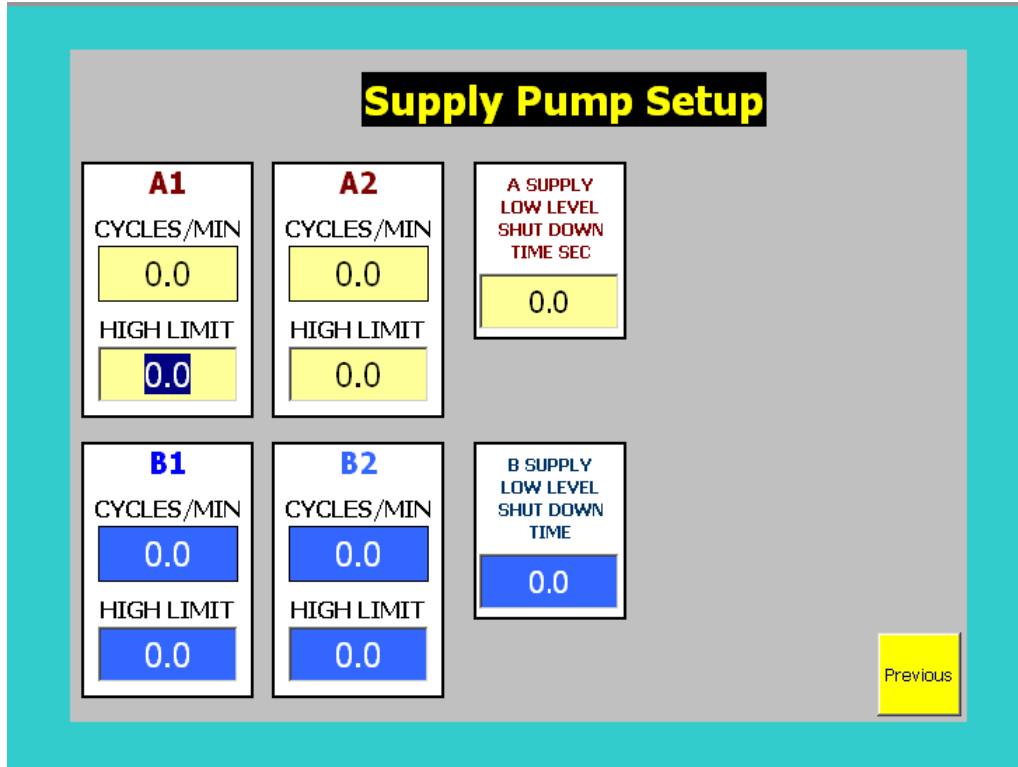


Fig. 3

Key	Description	Key	Description
Cycles/min	Cycles/min of supply air motor	Low Level shut down time	Low Level shut down Input field
High limit	High limit Input Field	Previous	Screen Access Button

High Limit

When the high limit value is reached the machine will fault. To recover the Supply pump must be placed in the Manual mode before returning to Auto mode. See **Supply Pumps** section in this manual.

Low Level Shutdown time

Amount of time machine will be able to run before the system shuts down. To recover Supply pump must be placed in the Manual Mode before returning to Auto mode. See **Supply Pumps** section in this manual.

Setup



Read **Operation Manual**, and **Supply Systems Manual** included with your machine. See **Related Manual** section for more information.

The Tandem Pump is assembled on a heavy-duty steel frame that accepts all the major operating components. The Tandem Pump will arrive from the factory pre-assembled, and ready for installation. Setting the unit in place, making the fluid connection, electrical connection, and connecting air supply is required.

Prior to installing the machine, check for any damage that may have occurred during transit. If any damage is found notify Graco immediately.

The Tandem Pump is to be installed on a flat surface in an area that permits easy access to all areas of the machine for maintenance and operation. The machine is designed for indoor use only.

The machine has been designed and labeled to prevent the accidental connection of chemical hoses to the wrong source. The A Resin component is labeled as A, A1, or A2 and is color-coded with yellow. The B catalyst component is labeled as B, B1, or B2 and is color-coded with blue.

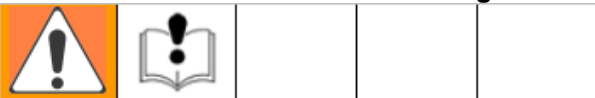
We recommend the system be installed and commissioned by one of our factory-trained technicians.

Location

See Installation instructions for recommended lifting located in Supply Manual 312371.

Position Tandem pump in front of Supply pump mounted to DC12 Frame.

Insert Pins into DC12 frame. Refer to **Fig. 4**



Do not lift DC12 or Tandem Pump when frames are connected. Pins are used only to align the DC12 frame with the Tandem Frame. Remove pins, disconnect Air, Fluid and electric cable before lifting machine.

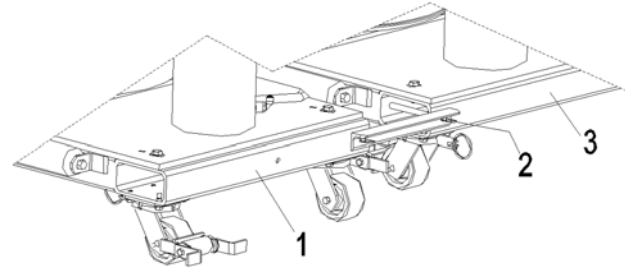


Fig. 4

Key	Description
1	Tandem Frame
2	Alignment Pin
3	DC12 Frame

Air Supply Connection



Do not install Air or Fluid Connection until pressure has been removed from the system. See **Pressure Relief Procedure** in manual **312767**.

Install Tandem airline to Supply pump located on the machine frame of the DC12. Refer to **Fig. 5**

Fluid Connection

1. Locate Tandem Fluid hose and Ball Valve at connection point. Refer to **Fig. 6**.
2. Connect Fluid hose manifold after priming the Tandem Pump. See **Priming Section** in this manual. Tandem Fluid Ball valve should be closed.

Setup

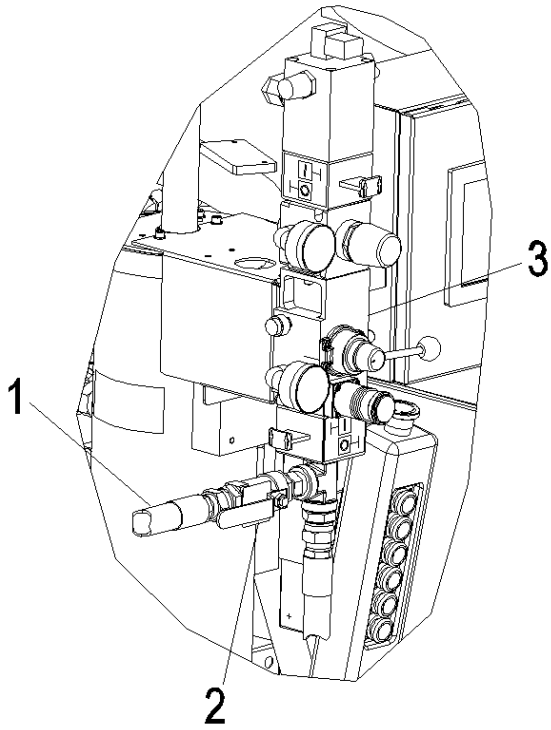


Fig. 5

Key	Description
1	Tandem Air Line
2	Tandem Air Ball Valve
3	Supply Integrated Air Control

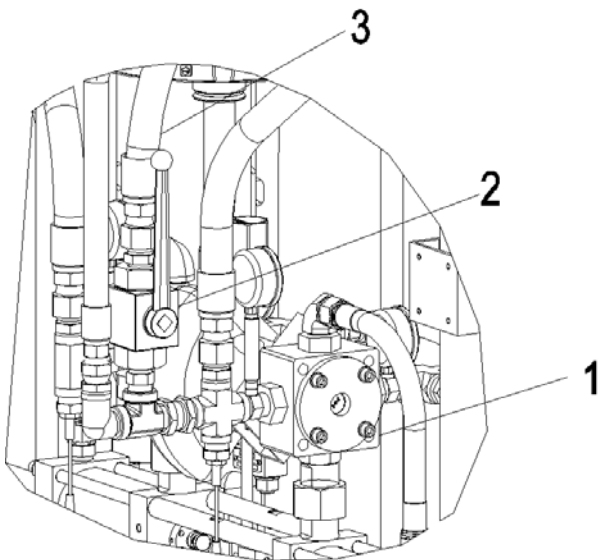


Fig. 6


Key	Description
1	Shot Meter
2	Tandem Fluid Ball Valve
3	Tandem Supply Hose

Electrical Connection



Remove Power on DC12 before connecting Tandem Pump cable.

1. Locate I/O cable located inside wire-way located on DC12 frame. The cables are labeled A2 and B2. Refer to **Fig. 7**.
2. Install I/O cable provided with Tandem Pump.

 Cables should be routed to avoid damage by supply drums, or equipment.

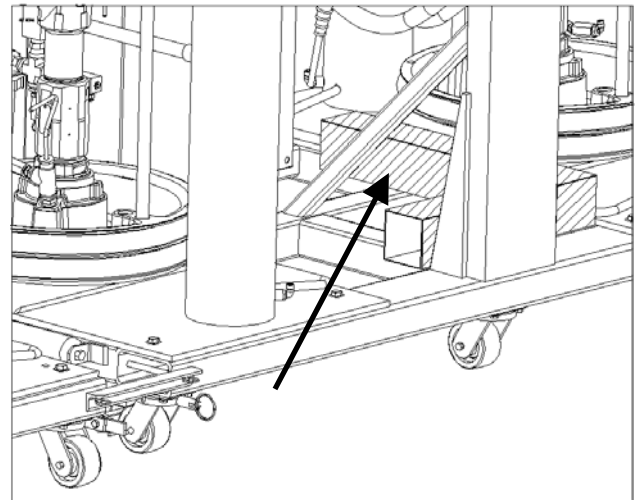


Fig. 7

Start-Up

Loading Material



Integrated Air Controls

The Integrated air controls include:

- Main air slider valve (BA): turns air on and off to the system. When closed, the valve relieves pressure downstream.
- Ram air regulator (BB): controls ram up and down pressure and blow-off pressure.
- Ram director valve (BC): controls ram direction.
- Exhaust port with muffler (BD)
- Air motor regulator (BE): Controls air pressure to motor.
- Air motor slider valve (BF): turns air on and off to the air motor. When closed, the valve relieves air trapped between it and the air motor. Push the valve in to shutoff.
- Blow-off button (BG): turns air on and off to push the platen out of an empty drum.

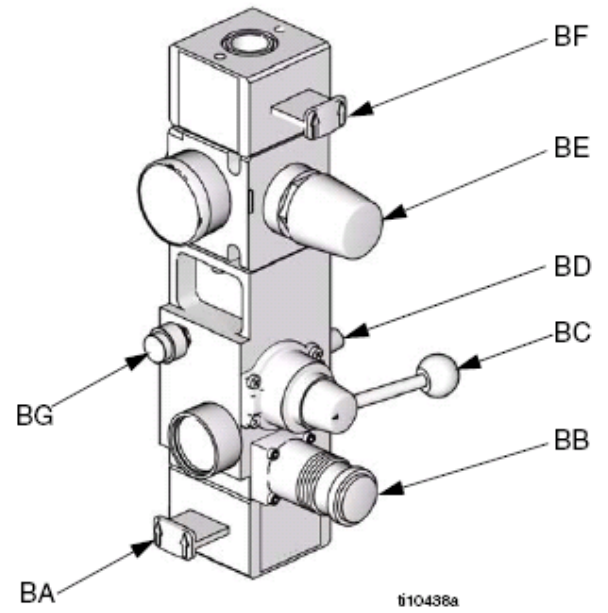


Fig. 8

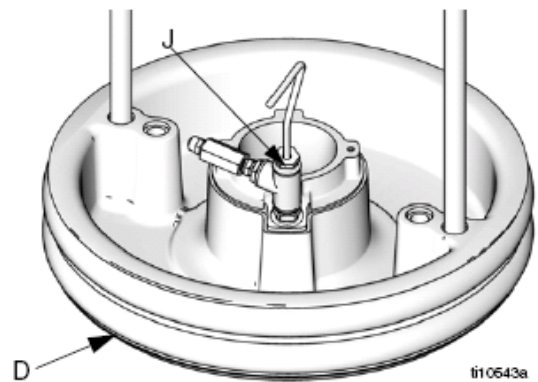


Fig. 9

Start-Up

Loading Material


CAUTION

Verify material to be loaded is the correct type. The DC12 is labeled with A and B material designations. "A" refers to the High Volume or resin material. "B" refers to the Low Volume or Hardener. Materials must be identified before loading. Failure could result in machine malfunction or damage.

1. Refer to **Fig. 8** and **Fig. 9**. Open main air slider valve (BA) and set ram air regulator (BB) to 40 psi (.28 Mpa, 2.8 bar). Set director valve handle (BC) to UP and let the ram rise to its full height.
2. Lubricate the platen seals (D) with grease or other lubricant compatible with the fluid to be pumped.
3. Remove Drum cover and smooth the surface of the fluid with a straightedge.
4. Put a full drum of fluid on the DC12 ram base, slide it back against the drum stops, and center it under platen (D). Use caution when rolling drum onto DC12 frame. Drum should be supported to avoid the drum rolling backwards onto the floor.
5. Remove bleed stick from platen bleed port (J).
6. If drum has a plastic liner, pull it over edge of drum. Secure liner with tape wrapped around circumference of drum.
7. Set the director valve (BC) to DOWN and lower the ram until fluid appears at the top of the platen bleed port (J). Adjust ram air regulator (BB) as needed. Set the director valve (BC) to neutral and close the platen bleed port (J).

Priming Tandem Pump



 See the **Performance Monitor Plus** section in manual **312767** for detailed information on the HMI screens.

1. Reduce Pressure on air motor regulator (BE) to 40 psi (.28 Mpa, 2.8 bar).
2. From the HMI Main Menu select the Supply Pumps Screen. Select the Manual Button (A or B Supply pumps depending on which Supply is loaded). Select the appropriate ON/OFF button. For example A2 PUMP ON/OFF.
3. Place a container under the bleeder valve to catch fluid. Open the supply pump bleeder valve. Supply pump will begin to cycle. Pump through bleeder port until air has been removed from pump lower. Close bleeder port after priming.

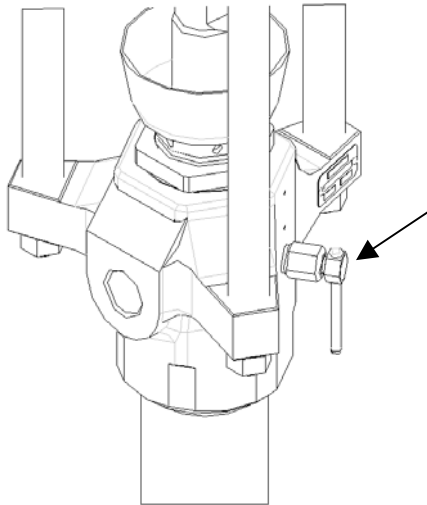


Fig. 10


4. From the HMI select the ON/OFF button to remove air pressure on the air motor. For example A2 PUMP ON/OFF.
5. Reduce Pressure on air motor regulator (BE) to 0 psi (0 Mpa, 0 bar).
6. Place a container under Tandem Fluid ball valve. Refer to **Fig. 6**.

7. From the HMI Select the Manual Button (A or B Supply pumps depending on which Supply is loaded). Select the appropriate ON/OFF button. For example A2 PUMP ON/OFF.
8. Open Tandem Fluid Ball Valve over container and slowly increase air motor regulator (BE) until material begins to flow. Continue to pump material into container until hose is primed.
9. Close Tandem Fluid ball Valve. From the HMI select the ON/OFF button to remove air pressure on the supply pump. For example A2 ON/OFF.
10. Connect Tandem Fluid Ball Valve. Refer to **Fig. 6**.

Drum Change



DRUM CHANGE A1 OR B1 PUMP WITH TANDEM PUMP INSTALLED

 Changing the A1 or B1 Drum on main machine frame requires Tandem Pump to be repositioned to allow access to drums. Tandem pump will not be able to function during A1 or B1 drum change.

1. Close Tandem Air Ball Valve. Refer to **Fig. 5**.
2. Close main air slider valve (BA) on Tandem Pump. Refer to **Fig. 8**. Wait until all air pressure is relieved on Tandem Airline.
3. Remove Tandem Airline. Refer to **Fig. 5**.
4. Remove Pins connecting Tandem Frame to machine base frame. Refer to **Fig. 4**.
5. Position Tandem Frame to allow access to A1 or B1 Drum.

CAUTION

Fluid hose and I/O cable are connected during drum change. Position Tandem Frame to avoid damage to Fluid hose or I/O cable.

6. Refer to **Drum Change** Procedure located in the DC12 Operation Manual **312767**.
7. After Drum change reconnect Tandem pump in reverse order.

DRUM CHANGE TANDEM PUMP A2 or B2

Refer to **Drum Change** Procedure located in the DC12 Operation Manual **312767**

Pressure Relief Procedure



Perform the **Pressure Relief** Procedure located in the DC12 Operation Manual **312767** in addition to the instructions for the Tandem Pump.

Pressure Relief Tandem Pump

1. Close Tandem Supply Air pressure Valve. Refer to **Fig. 5**.
2. Supply Ram Integrated Air Controls:
Close the air motor slider valves (BF) and the main air slider valves (BA) on all Supply Pumps. Refer to **Fig. 8**.
3. Set the ram director valve to DOWN. The ram will slowly drop.
4. Jog the director valve up and down to bleed air from ram cylinders.
5. At each Supply Pump open the fluid line drain valve and the pump bleeder valve. Have a container ready to catch the drainage.

Repair

Supply Systems

- See Manual 312371

Shot Meter

- See Manual 312896

Dispense Valves

- See Manual 310551

Ratio Valves

- See Manual 310550

Parts

Tandem Frame

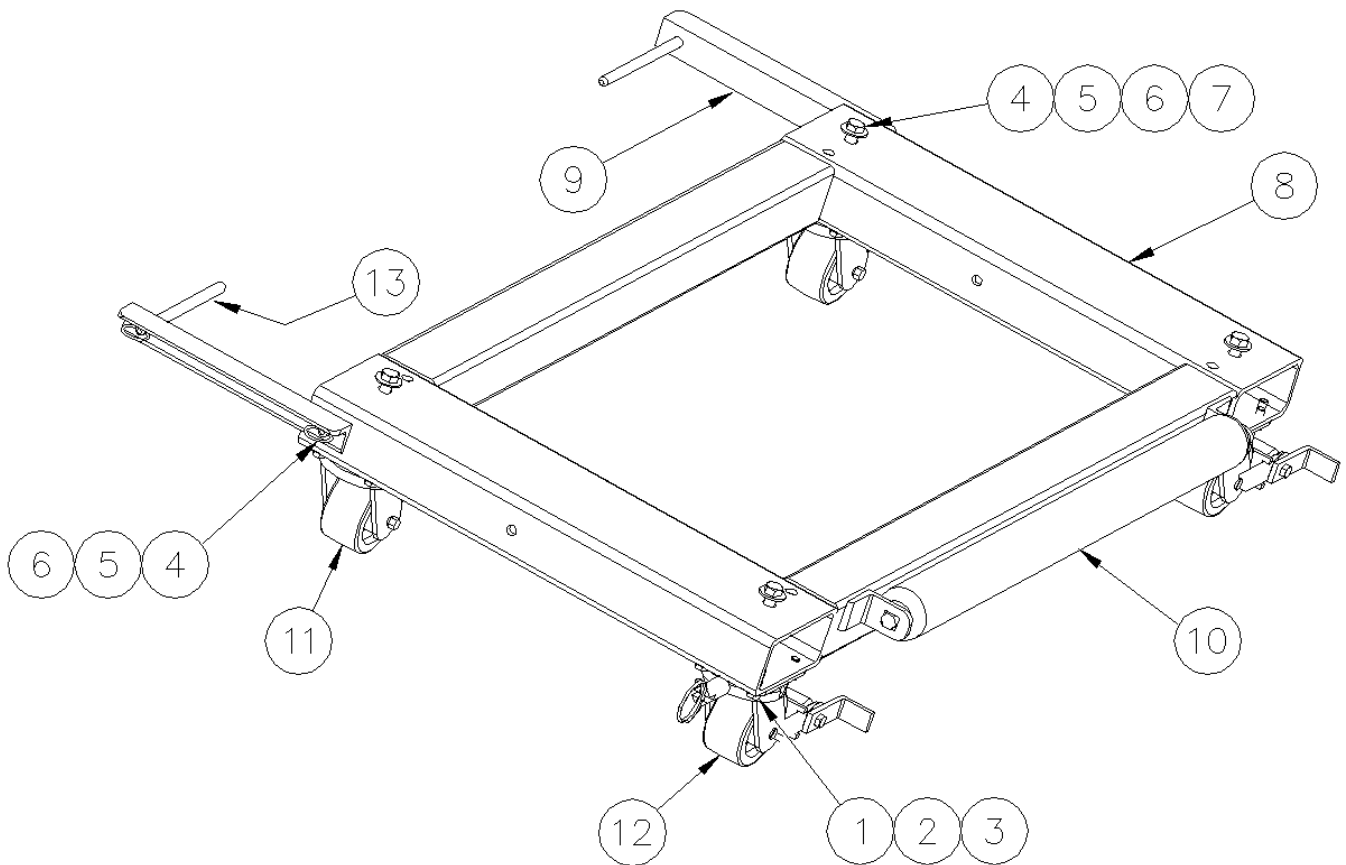


Fig. 11

Ref	P/N	Description	Qty
1	96/0036/99	WASHER,FLAT,3/8,0.41X0.81	16
2	96/0046/99	WASHER,LOCK,SPLIT,3/8,M	16
3	96/0070/99	SCREW,HHC,3/8-16X0.75,M	16
4	96/0071/99	NUT,HEX,1/2-13,MS,GR2	6
5	96/0091/99	WASHER,LOCK,SPLIT,1/2,MS	6
6	96/0252/99	SCREW,HHC,1/2-13X1.50,M	6
7	96/0409-1/99	WASHER,FLAT,1/2,0.53X1.0	4
8	256478	FRAME,RAM,SATELLITE,P	1
9	256479	LINK,FRAME,REMOTE,P	2
10	U70011	ROLLER,STEEL,2.5"DIA,65	1
11	U70012	CASTER,SWLV,4"DIA X 2"WID	2
12	U70013	CASTER,SWLV,4"DIA X 2"WIDE	2
13	U70071	PIN,QUICK REL,1/2"DIA X 7"LG	2

Parts

Supply Pumps

- See Manual 312896

Tandem Air Line

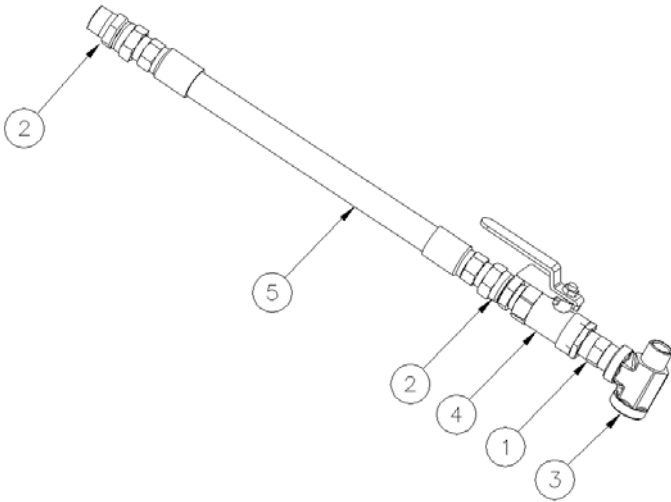


Fig. 12

Ref	P/N	Description	Qty
1	94/0322-1/99	NIPPLE,HEX,3/4NPT,MM,MS	1
2	94/0423/99	ADAPTER,SWVL,3/4NPSX3/4N	2
3	20008	TEE,3/4NPTX3/4NPTX3/4NPT	1
4	113332	VALVE,BALL,2W,3/4NPT,FXF	1
5	U50076	HOSE SET,AIR ASSY,REM	1

Tandem Fluid Manifold

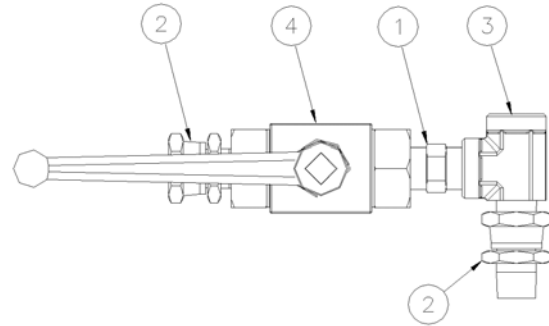


Fig. 13

Ref	P/N	Description	Qty
1	20008	TEE,3/4NPTX3/4NPTX3/4NPT	1
2	94/0322-1/99	NIPPLE,HEX,3/4NPT,MM,MS	1
3	U70056	VALVE,BALL,2W,3/4"NPT	1
4	94/0422/99	ADAPTER,SWVL,1NPSX3/4NP	2

Parts

Supply Pump Outlet to Tandem Fluid Manifold 2:1 Ratio A2

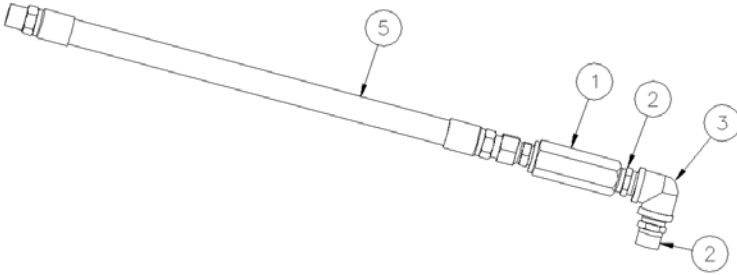


Fig. 14

Ref	P/N	Description	Qty
1	94/0675/99	ELBOW,90,1NPT,FF,MS,2.5K	1
2	94/0433/99	NIPPLE,HEX,1NPT,MM,MS,4.5K	2
3	94/0432-2/50	VALVE,CHECK,1"NPT,F,MS	1
4	94/0676/99	ADAPTER,SWVL,1NPTSX1NPT	1
5	U70079	HOSE SET,1"X86"W/1"NPT	1

Supply Pump Outlet to Tandem Fluid Manifold 1:1 Ratio A2 or B2

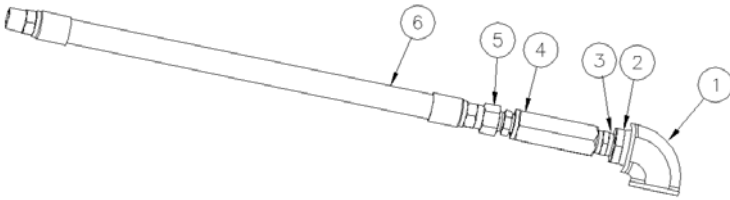


Fig. 15

Ref	P/N	Description	Qty
1	U70002	FITTING,90,1.5NPT,FF,MS,1.5	1
2	6301-16	BUSHING,1.5NPTX1NPT,MF	1
3	94/0433/99	NIPPLE,HEX,1NPT,MM,MS,4.5K	1
4	94/0432-2/50	VALVE,CHECK,1"NPT,F,MS	1
5	94/0676/99	ADAPTER,SWVL,1NPTSX1NP,	1
6	U70079	HOSE SET,1"X86"W/1"NPT	1

Technical Data

Category	Data
Max air input pressure (DC12 system)	100 psi (6.9 bar)
Max Fluid Pressure (DC12 system)	2,500 psi (172 bar)
Wetted Components	See manuals 312767, 312371, & 312375
Platen Wipers	EPDM
Power Requirements	See manual 312767
Sound Power Level	See manual 312767
Sound Pressure Level	See manual 312767

Technical Data

Dimensions



Refer to supplied manuals, page 4, for dimensions of the DC12 and other components.

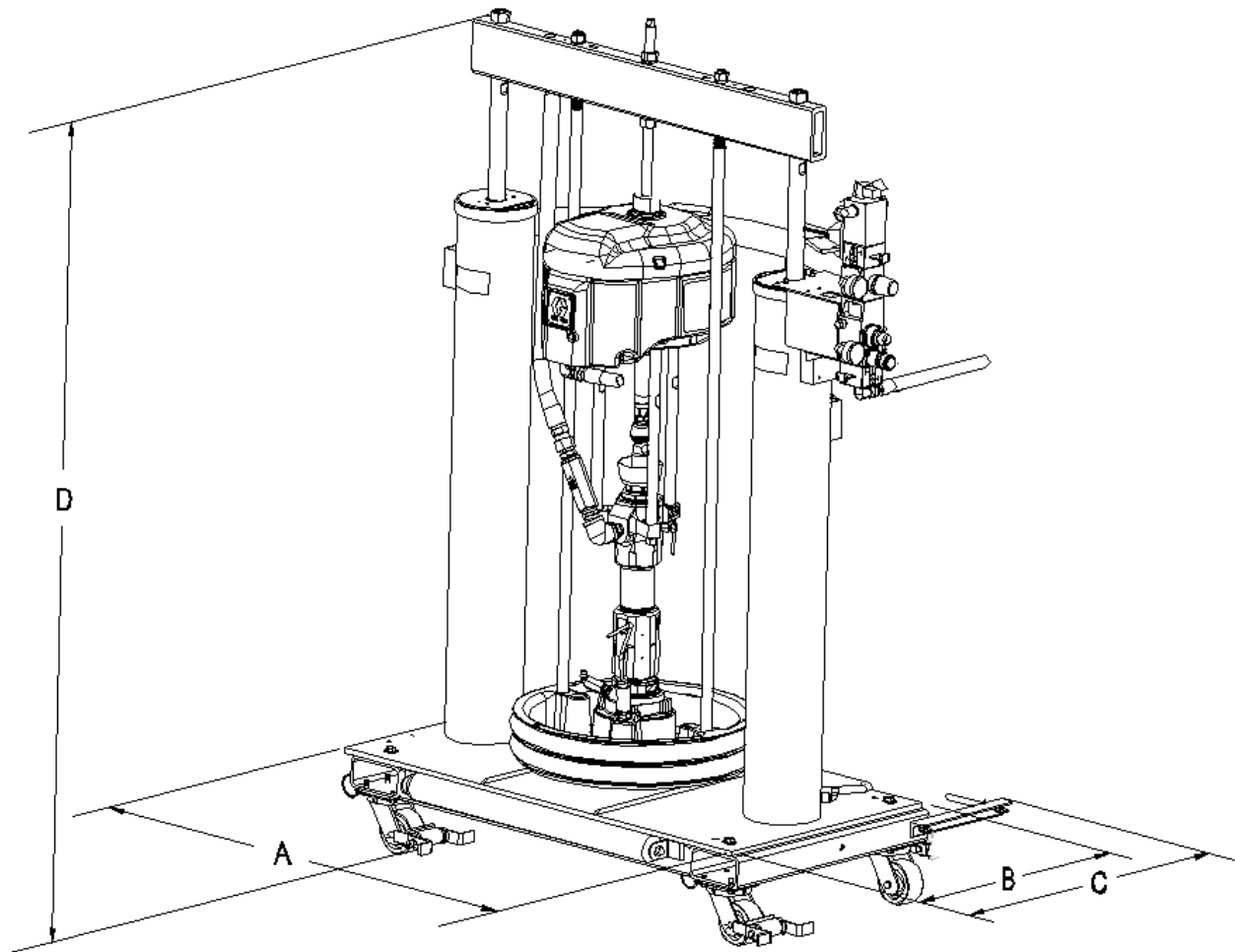


Fig. 16

Key	Description
A	48 in. (122 cm)
B	25 in. (63.5 cm)
C	36 in. (91.4 cm)
D Ram Down	78.8 in. (200 cm)
D Ram Up	113.4 in. (288 cm)

Graco Ohio Standard Warranty

The warranties contained herein are not made in regard to auxiliary equipment and components (see AUXILIARY EQUIPMENT AND COMPONENTS NOT MANUFACTURED BY SELLER). Unless otherwise specifically stated in writing, warranties are limited to the following: All proprietary goods designed, manufactured and sold by Seller are guaranteed against defective workmanship or material for a period of one (1) year after date of shipment from the factory, provided the goods are properly maintained and operated under the condition for which they were sold. This warranty does not cover seals or components that are out of specification due to normal wear and tear or improper maintenance of the equipment. All claims pursuant to the warranties must be made within such one (1) year period. If Buyer claims the goods are defective within the one (1) year period, Buyer shall notify Seller immediately, in writing. Seller may inspect, by authorized agent, the defective claim or issue shipping instructions for return of the goods to its factory. Seller shall have the option, at its sole discretion, if the goods are found to be defective, to correct the defect or defects by repair or replacement or refund the purchase price. Seller's obligation, with respect to such goods, shall be limited to the replacement or repair F.O.B. Seller's North Canton, Ohio facility, or refund of the purchase price, and in no event shall Seller be liable for consequential or special damages, or for transportation, installation, adjustment or other expenses which may arise in connection with such goods. The Seller assumes no liability for warranty claims that are found to be attributable to components or mixers, which are not supplied by Seller (see AUXILIARY EQUIPMENT AND COMPONENTS NOT MANUFACTURED BY SELLER). Any services and/or parts provided to correct problems associated with components and mixers not supplied by Seller shall be provided at the Buyer's expense. The liability of Seller arising out of supplying such goods and services, or their use, whether on warranties or otherwise, shall not under any circumstances exceed the cost of the equipment and parts involved, and upon the expiration of the specified one (1) year warranty claims period, all such warranties and liabilities shall terminate. Seller assumes no liability for damages or expenses of any character, including those arising out of the installation, use or resale of such goods. No representation or other affirmation of fact not set forth herein, including, but not limited to, verbal or written statements regarding capacity, or suitability for use, or performance of the goods, shall be deemed to be a warranty or representation by Seller for any purpose, nor would they give rise to any liability or obligation of Seller whatsoever. NO WARRANTY OR GUARANTEE, EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY AS TO MERCHANTABILITY OR FITNESS FOR ANY PURPOSE, IS MADE, EXCEPT AS SPECIFICALLY PROVIDED IN THIS AGREEMENT.

AUXILIARY EQUIPMENT AND COMPONENTS NOT MANUFACTURED BY SELLER

To the extent that auxiliary equipment and components of other manufacturers (e.g. logic control hardware, valves, transfer pumps, motors, etc.) are included as part of the machine or system described in the quotation and data sheet attached hereto, it is understood that Seller acts only as an agent of Buyer in making such quotations and these products which are not manufactured by Seller are subject to the original manufacturer's warranty policy. FURTHER, SELLER MAKES NO WARRANTIES OR GUARANTEES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTIES AS TO MERCHANTABILITY OR FITNESS FOR ANY PURPOSE AND ASSUMES NO LIABILITIES WITH RESPECT TO AUXILIARY EQUIPMENT AND COMPONENTS WHICH ARE MANUFACTURED BY OTHERS.

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