STANDARD DUTY GREASE PUMPS
50:1 PUMP

OPERATION, INSTALLATION, MAINTENANCE
AND REPAIR GUIDE

PART NO.:
L791150-009 - GREASE PUMP, STANDARD DUTY, 35 LB
L791150-010 - GREASE PUMP, STANDARD DUTY, 120 LB
L791150-011 - GREASE PUMP, STANDARD DUTY, 400 LB

L791150-011

L791150-010

L791150-009

READ BEFORE USE

WARNING

IMPORTANT

BECAUSE THIS PUMP CAN BE INCORPORATED INTO A PRESSURIZED SYSTEM, THE FOLLOWING SAFETY PRECAUTIONS SHOULD BE OBSERVED.

CHECK EQUIPMENT REGULARLY AND REPAIR OR REPLACE WORN AND DAMAGED PARTS.

NEVER ALTER OR MODIFY ANY PART OF THIS PUMP, DOING SO MAY CAUSE DAMAGE TO PUMP AND/OR PERSONAL INJURY.

UNDER NO CIRCUMSTANCES SHOULD THE DISPENSING VALVE BE AIMED AT ANY PERSON AT ANY TIME. PERSONAL INJURY MAY RESULT.

RELEASE PRESSURE BUILT UP IN THE SYSTEM BEFORE ANY SERVICE OR REPAIR IS BEGUN. SEE THE PRESSURE RELIEF PROCEDURE BELOW.

DO NOT OPERATE THIS PUMP ABOVE 150 PSI / 10 BAR AIR INLET PRESSURE OR 200 CYCLES PER MINUTE.

ALWAYS READ AND FOLLOW THE FLUID MANUFACTURER'S RECOMMENDATIONS REGARDING THE USE OF PROTECTIVE EYEWEAR, CLOTHING AND RESPIRATORS.

WARNING

PRESSURE RELIEF PROCEDURE:

FOLLOW THIS PROCEDURE WHENEVER YOU SHUT OFF THE PUMP, WHEN CHECKING OR SERVICING ANY PART OF THE SYSTEM AND WHEN INSTALLING, CLEANING OR CHANGING ANY PART OF THE SYSTEM.

1. DISCONNECT THE AIR TO THE PUMP.
2. POINT DISPENSING VALVE AWAY FROM YOUR SELF AND OTHERS.
3. OPEN DISPENSING VALVE UNTIL PRESSURE IS RELIEVED.

WARNING

USE L793241-002 PUMP OVER-RUN CONTROL VALVE ON PUMP AIR INLET FOR REMOTELY OPERATED PUMPS. FAILURE TO USE THIS VALVE CAN CAUSE PUMP TO CYCLE QUICKLY WHEN BARREL IS EMPTY OF GREASE. THIS WILL DAMAGE THE PUMP AND MAY VOID FACTORY WARRANTY.

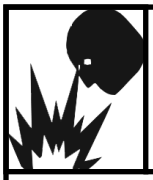
WARNING

WARNING: THE STANDARD DUTY GREASE PUMP 50:1 DEVELOPS UP TO 7500 PSI / 517 BAR MAX WORKING PRESSURE AT 150 PSI / 10 BAR MAX INLET AIR PRESSURE AND STALL CONDITIONS. BE SURE THAT ANY COMPONENTS OR ACCESSORIES USED IN THE SYSTEM ARE RATED TO WITHSTAND THIS PRESSURRE. TO DETERMINE FLUID OUTPUT PRESSURE AT STALL CONDITIONS, MULTIPLY THE RATIO OF THE PUMP BY AIR PRESSURE BEING USED.

EXAMPLE: 50:1 PUMP RATIO X 100 PSI AIR PRESSURE = 5000 PSI FLUID PRESSURE STALL.

WARNING

THIS PUMP CONTAINS ALUMINUM AND ZINC PARTS. DO NOT USE 1-1-1 TRICHLOROETHANE, METHYLENE CHLORIDE OR OTHER HALOGENATED HYDROCARBON SOLVENTS OR FLUIDS CONTAINING SUCH SOLVENTS IN THIS PUMP. USE OF THESE SOLVENTS/FLUIDS MAY RESULT IN A VIOLENT CHEMICAL REACTION, CAUSING SERIOUS BODILY INJURY, PROPERTY DAMAGE OR DEATH. ALL FLUIDS USED IN THIS PUMP MUST BE CHEMICALLY COMPATIBLE WITH THE WETTED PARTS MATERIALS SHOWN ON PAGE TWO (2) OF THIS MANUAL. CONSULT YOUR CHEMICAL SUPPLIER TO ENSURE COMPATIBILITY.



WARNING

DANGER: NOT FOR USE WITH FLUIDS THAT HAVE A FLASH POINT BELOW 100°F (38°C). EXAMPLES: GASOLINE, ALCOHOL. SPARKING COULD RESULT IN AN EXPLOSION WHICH COULD RESULT IN DEATH.

WARNING

IN THE PRESENCE OF EXPLOSIVE VAPORS, TAKE ACTION TO PREVENT STATIC SPARKING. FAILURE TO GROUND THE PUMP, PIPING, VALVES, CONTAINERS, OR OTHER MISCELLANEOUS EQUIPMENT CAN RESULT IN FIRE OR EXPLOSION. A GREEN GROUNDING LUG IS PROVIDED ON THE PUMP.

PRODUCT DESCRIPTION

THE 50:1 RATIO STANDARD DUTY GREASE PUMP IS SUITABLE FOR GREASE DISTRIBUTION TO MULTIPLE DISPENSING POINTS OR FOR DISPENSING DISTANCES OF UP TO 300 FEET. BECAUSE OF ITS SUPERIOR FLOW RATE AND RUGGED DESIGN, IT IS IDEAL FOR A WIDE VARIETY OF APPLICATIONS AND INSTALLATIONS.

THE STANDARD DUTY GREASE PUMP PROVEN AIR MOTOR FEATURES A PRECISION AIR REVERSING VALVE MECHANISM WITH DUAL VALVE PORTS FOR IMPROVED HIGH SPEED BREATHING. IT ALSO CONTAINS A POSITIVE TRIP DETENT SPOOL MECHANISM THAT ELIMINATES STALLING (BLOWING AIR) BY PREVENTING THE PUMP FROM BEING CAUGHT BETWEEN STROKES.

THE LOWER END IS FITTED WITH AN INTAKE SYSTEM THAT DRAMATICALLY IMPROVES THE PUMP'S OUTPUT BY MAINTAINING A HIGH INLET VACUUM. BY CREATING SUCH A HIGH INTAKE VACUUM, THE CHANCE OF PRODUCING "VOIDS" IN THE GREASE IS PRACTICALLY ELIMINATED.

IT HAS A SIMPLE YET DURABLE CONSTRUCTION WITH ALL INTERNAL PARTS LUBRICATED AT THE FACTORY USING A LIFE-TESTED SYNTHETIC GREASE. THIS GREASE COATS ALL INTERNAL PARTS AND REPELS AIR LINE MOISTURE TO INHIBIT CORROSION.

THE STANDARD DUTY GREASE PUMP'S EXTERIOR IS CONSTRUCTED FROM AIRCRAFT GRADE EXTRUDED ALUMINUM FOR AN OUTSTANDING STRENGTH TO WEIGHT RATIO. THE PUMP ALSO HAS HIGH QUALITY BUNA-N AND URETHANE SEALS. IT IS A PUMP THAT HAS PROVEN TO BE RELIABLE, YET EASY TO SERVICE AND MAINTAIN.

TECHNICAL DATA

PRESSURE RATIO	50:1
AIR MOTOR, EFFECTIVE DIA	2.50"
STROKE	3.25"
AIR MOTOR DISPLACEMENT	30.4 IN3
CYCLES PER POUND1	70
MAXIMUM FLOW RATE1	3.4 LB/MIN
OPERATING AIR PRESSURE RANGE	40-150 PSI (2.8-10.3 BAR)
RECOMMEND OPERATING RANGE	**40-125 PSI (2.8-8.6 BAR)**
AIR CONSUMPTION, @ 100 PSI AIR & 1.5 LBS/MIN	14.5 SCFM
FLUID OUTLET	1/4" NPTF
AIR INLET	1/4" NPTF
WETTED PARTS	STAINLESS STEEL, CARBON STEEL, BRASS, ALUMINUM, DELRIN, ULTRATHANE, BUNA-N

PUMP INSTALLATION

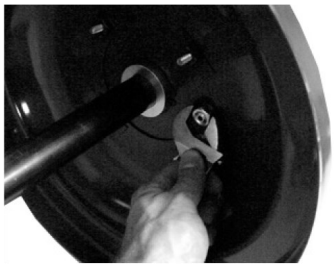
AFTER REMOVING THE PUMP FROM ITS SHIPPING CARTON, ATTACH A SUITABLE DRUM COVER WITH THE MOUNTING RING SUPPLIED WITH THE PUMP.

> ⚠ **CAUTION:** Performance will be affected by a suction path seal (follower plate) that is not air tight.

IF THE PUMP IS BEING MOUNTED TO A GREASE PAIL OR DRUM IT IS RECOMMENDED THAT A FOLLOWER PLATE BE USED TO INSURE PROPER PERFROMANCE.

REFER TO THE FOLLOWING ILLUSTRATIONS DEPICTING A TYPICAL DRUM-MOUNTED INSTALLATION.

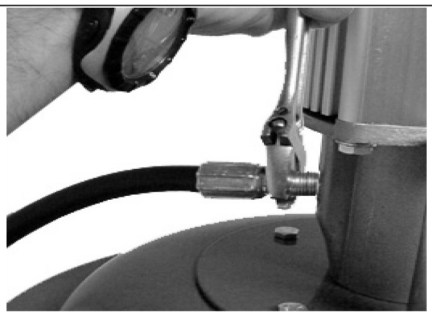
STEP 1:
Using four 1/4-28 bolts and lock washers, secure the pump to the drum cover.



STEP 2:
From underneath, tighten the holster.

STEP 3:
Slide the follower plate up the pump tube as shown.

STEP 4:
Insert pump (with follower plate) into drum and tighten thumb screws.



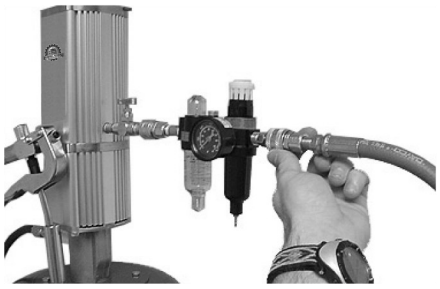
STEP 5:
Tighten one end of outlet hose to pump outlet.

STEP 6:
Secure control handle to the other end of the outlet hose.

STEP 7:
Install a coupler or a ball valve into the pump's air intake port. ***Insure the valve is closed***

PUMP INSTALLATION (CONTINUED)

STEP 8:
Install a F-R-L onto the pump. Fill the lubricator with 10-20 wt. lubricant - set for 1 drop every 2 hours.

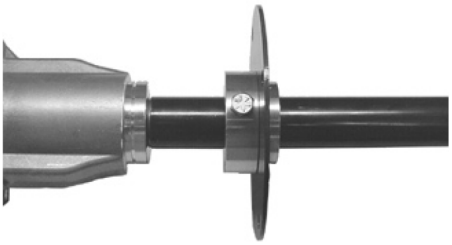


STEP 9:
Connect compressed air to F-R-L.

STEP 10:
Set regulator to no more than 150 psi (10 bar)

STEP 11:
Open control handle into suitable container to properly prime pump and remove air from system.

Set-up complete (optional equipment shown)



25/35 LB. Installation:
Loosen set screw on mounting collar and remove from pump. Install collar on cover and complete step 1 and 2. Place cover on pail and insert pump. Raise pump one inch from bottom of pail and tighten set screw. Proceed with step 3 and rest of installation instructions.

NOTE: IF YOUR PAIL MEASURES 16-1/2" OR GREATER, REMOVE THE MOUNTING RING FROM THE COLLAR AND ATTACH THE MOUNTING RING TO THE PUMP'S OUTLET HOUSING WITH THE SNAP RING PROVIDED.

PREVENTIVE MAINTENANCE

THE STANDARD DUTY GREASE PUMP HAS BEEN DESIGNED TO OPERATE DEPENDABLY WITH LOW MAINTENANCE. HOWEVER, TO ENSURE PUMP LONGEVITY, THE FOLLOWING SHOULD BE OBSERVED.

- KEEP THE GREASE FREE OF TRASH AND DEBRIS. PERIODICALLY CHECK THE PUMP INLET FOR FOREIGN MATTER AND CLEAN WHEN NECESSARY.
- RUN THE PUMP AT THE MINIMUM PRESSURE REQUIRED TO ACHIEVE THE DESIRED FLOW RATE (LESS THAN 125 PSI AND 150 CYCLES/MIN RECOMMENDED)
- ENSURE THE PUMP RECEIVES CLEAN, MOISTURE FREE AIR. CHECK AND MAINTAIN THE SYSTEM'S AIR FILTER ON A REGULAR BASIS.
- ALTHOUGH THE AIR MOTOR IS COATED WITH SYNTHETIC GREASE UPON FACTORY ASSEMBLY AND CAN RUN WITHOUT LUBRICATED AIR, WE RECOMMEND AN IN-LINE F.R.L. BE INSTALLED IN THE PUMPING SYSTEM.
- NEVER LET THE PUMP RUN DRY OF THE GREASE BEING PUMPED.

CAUTION: Always read and follow grease manufacturers' recommendations regarding proper use of protective eye wear, clothing and respirators.

CAUTION: Read all limitations which apply to selection of greases which may be pumped by this product. Do not pump a grease which is not specified to be compatible.

TO START PUMP:

1. IMMERSE THE PUMP'S SUCTION TUBE INLET INTO THE GREASE TO BE PUMPED (REFER TO "PUMP INSTALLATION" FOR MORE DETAIL).
2. CONNECT THE AIR COUPLER TO THE PUMP AND TURN THE AIR REGULATOR TO THE MINIMUM SETTING.
3. DIRECT PUMP OUTLET HOUSE INTO AN APPROVED WASTE CONTAINER.
4. SLOWLY ADJUST THE AIR REGULATOR UNTIL THE PUMP IS PRIMED AND RUNNING SMOOTHLY. BE SURE ALL AIR HAS BEEN PURGED FROM THE SYSTEM. THE PUMP SHOULD PRIME IN LESS THAN 30 SECONDS.
5. USE THE AIR REGULATOR TO CONTROL THE PUMP'S SPEED AND CYCLE RATE. ALWAYS USE THE LOWEST PRESSURE REQUIRED TO OBTAIN THE DESIRED FLOW RATE. THIS WILL INCREASE PUMP AND SEAL LIFE.
6. NEVER ALLOW A PUMP TO BE RUN DRY OF THE GREASE BEING PUMPED. A DRY PUMP QUICKLY SPEEDS UP, WHICH COULD DAMAGE THE AIR MOTOR AND FLUID SEALS. IF THE PUMP SUDDENLY SPEEDS UP, CUT OFF THE AIR SUPPLY AS SOON AS POSSIBLE, REFILL THE RESERVOIR WITH GREASE, AND REPRIME THE SYSTEM.
7. READ AND FOLLOW THE INSTRUCTIONS FOR EACH COMPONENT IN YOUR SYSTEM.
8. IF THE PUMP WILL BE UNATTENDED FOR ANY PERIOD OF TIME, OR SHUTTING OFF THE SYSTEM, AT THE END OF A WORK SHIFT, ALWAYS FOLLOW THE PRESSURE RELIEF PROCEDURE.

PUMP REPAIR / SERVICING

WARNING: Before beginning pump repair, all internal pressure must be relieved. To reduce risk of personal injury, follow the **Pressure Relief Procedure on page 8.**

REMOVING THE AIR MOTOR:

USING A 7/16” WRENCH OR SOCKET, REMOVE THE FOUR NUTS (**37**) FROM THE CARRIAGE BOLTS (**30**). PULLING UPWARD ON THE HANDLE (**39**), REMOVE CARRIAGE BOLTS (**30**). PULL UP ON CAP (**31**) AND SLIDE CP (**31**) OUTWARD, REMOVING CAP FROM TEE SLOT CONNECTION WITH TRIPPER ROD (**42**). PULL UPWARD ON BODY (**33**) AND REMOVE. SHIFT AIR MOTOR OUT FROM TEE SLOT CONNECTOR ON ROD (**19**) AND REMOVE AIR MOTOR, SEAL INSERT (**35**) AND LOWER BODY (**36**). REASSEMBLE IN REVERSE ORDER, USING GREASE ON ALL SEALS AND O-RINGS.

REPLACING THE AIR MOTOR SEALS:

PLACE AIR MOTOR ON CLEAN WORK SURFACE WITH THE AIR VALVE MECHANISM UP. WITH A STRAIGHT SCREWDRIVER, REMOVE THE BALL DETENT RETAINERS (**55**) FROM PISTON (ENSURE THE BALLS (**57**) ARE REMOVED). WITH TWO 7/16" WRENCHES, REMOVE THE TWO NUTS (**49**) FROM THE TOP OF THE INTAKE VALVES (**62**). NOW, HOLD THE TRIPPER ROD (**42**) AND PULL VALVE BAR ASSEMBLY FROM PISTON (**59**). CHECK FOR WEAR ON ALL SEALS (**32, 34, 54,** AND **58**), BALLS (**57**), AND SPRINGS (**46** AND **47**) AND REPLACE AS REQUIRED. REASSEMBLE IN REVERSE ORDER, USING THE DIAGRAM AS A GUIDE. USE GREASE ON ALL SEALS AND O-RINGS.

REPLACING THE LOWER END SEALS:

PLACE A 3/32" ALLEN WRENCH THROUGH A SLOT IN THE INTAKE TUBE (**18**) AND THROUGH THE 1/8" HOLE IN THE LOWER ROD (**26**) AS SHOWN IN FIG. 1 BELOW. WHILE HOLDING ROD (**26**) IN PLACE WITH ALLEN WRENCH, REMOVE NUT (**29**) WITH A 5/8" SOCKET. THE UPPER AND LOWER INTAKE DISKS (**27** AND **28**) CAN NOW BE REMOVED. USING A STRAP WRENCH, REMOVE THE INTAKE TUBE (18) AND THE HIGH PRESSURE CYLINDER (**12**).

PUMP REPAIR / SERVICING (CONTINUED)

THE FOOT SEAL ASSEMBLY (**13**, **14**, **15**, **16**) WILL SLIDE OFF WITH THE HIGH PRESSURE CYLINDER (**12**). REMOVE THE LOWER ROD (**26**) FROM THE GREASE PISTON (**23**) BY PLACING A 9/16" WRENCH ON THE FLATS OF THE GREASE PISTON (**23**) AND A 1/8" ALLEN WRENCH IN THE HOLE THROUGH THE LOWER ROD (**26**). USING A STRAP WRENCH, REMOVE THE UPPER TUBE (**10**) FROM THE GREASE ADAPTER (**1**). CLAMP VISE GRIPS ON THE KNURLED PORTION OF THE CONNECTING ROD (**20**) AND REMOVE THE GREASE PISTON (**23**) USING THE 9/16" WRENCH. REMOVE THE BALL (**22**) AND SPRING (**21**) FROM THE GREASE PISTON (**23**). WITH THE VICE GRIPS STILL CLAMPED ONTO THE CONNECTING ROD (**20**), PLACE A 3/32" ALLEN WRENCH THROUGH THE UPPER ROD (**19**) AND REMOVE THE CONNECTING ROD (**20**).

REMOVE THE FOUR NUTS (**37**) FROM THE CARRIAGE BOLTS (**30**). PULL DOWN SLIGHTLY ON THE GREASE ADAPTER (**1**) AND UNHOOK THE UPPER ROD (**19**) FROM THE TEE SLOT IN THE PISTON NUT (**64**). PULL THE UPPER ROD (**19**) OUT OF THE GREASE ADAPTER (**1**). CLAMP THE GREASE ADAPTER (**1**) IN A VICE AND USING A 1-1/2" SOCKET, REMOVE THE ADAPTER SEAL CARRIER (**2**) FROM THE GREASE ADAPTER (**1**). REMOVE PACKINGS (**3, 4**, AND **5**) FROM ADAPTER SEAL CARRIER (**2**).

REASSEMBLE IN REVERSE ORDER, USING THE PUMP BREAKDOWNS AND TORQUE SPECIFICATIONS ON PAGES 10-15 AND FIG. 2 AS A GUIDE. *USE GREASE ON ALL SEALS AND O-RINGS.*

CAUTION: Before servicing, reduce fluid pressure to zero. For safe handling, use the recommended **Pressure Relief Procedure.**

NOTE: THE AIR MOTOR IS LUBRICATED WITH A LIFE-TESTED SYNTHETIC GREASE AT THE FACTORY. THIS GREASE COATS ALL PARTS AND REPELS AIR LINE MOISTURE TO INHIBIT CORROSION. IT IS IMPERATIVE THAT ANY GREASE REMOVED DURING MAINTENANCE BE REPLACED AFTERWARDS.

WARNING

Pressure Relief Procedure:

Follow this procedure whenever you shut off the pump, when checking or servicing any part of the system and when installing, cleaning or changing any part of the system.

1) Disconnect the air to the pump.
2) Point dispensing valve away from yourself and others.
3) Open dispensing valve until pressure is relieved.

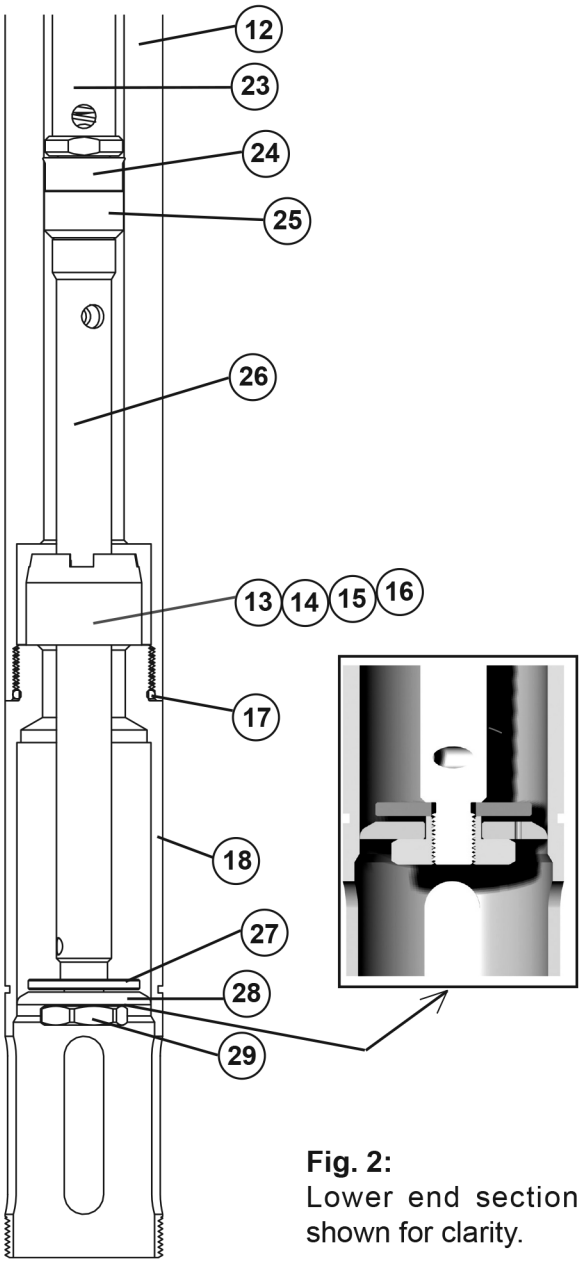


Fig. 2:
Lower end section shown for clarity.

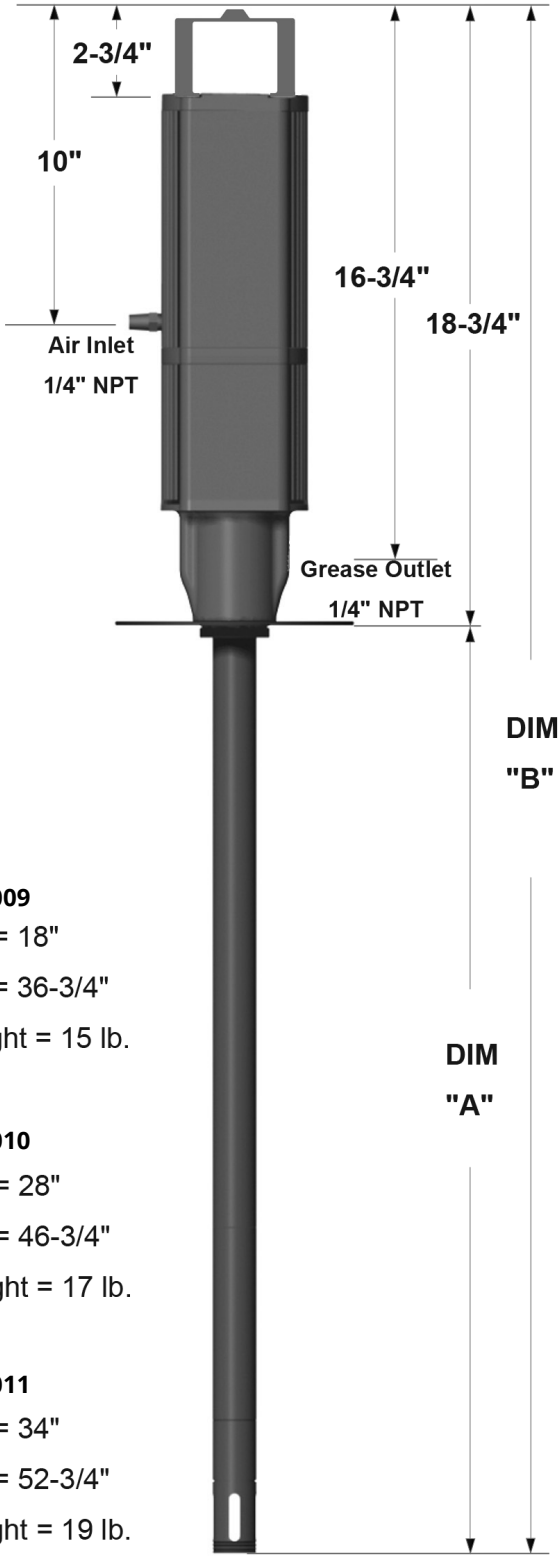
TROUBLESHOOTING GUIDE

NOTE: Check all other possible causes before disassembling pump.

⚠ **CAUTION:** Before servicing, reduce fluid supply pressure to zero.

TROUBLE	POSSIBLE CAUSE	CORRECTIVE ACTION
PUMP DOES NOT OPERATE	INADEQUATE AIR SUPPLY PRESSURE OR RESTRICTED AIR LINE CLOGGED LINES, HOSES, VALVES, ETC. DAMAGED AIR MOTOR	INCREASE OR CLEAR AIR SUPPLY (1) RESTRICTED AIR LINE ENSURE AIR IS ON AND VALVES ARE OPEN OPEN; CLEAR (1) SERVICE / REPLACE AIR MOTOR
AIR MOTOR IS NOT TRIPPING OVER	AIR MOTOR SEALS ARE WORN/DAMAGED	SERVICE / REPLACE AIR MOTOR
AIR IS LEAKING FROM EXHAUST	AIR MOTOR SEALS ARE WORN/DAMAGED	SERVICE / REPLACE AIR MOTOR
GREASE IS LEAKING FROM THE EXHAUST	ADAPTER SEAL (4) IS WORN/DAMAGED	REPLACE
ERRATIC PUMP OPERATION	AIR ENTERING SUCTION LINE GREASE LEVEL TOO LOW AIR MOTOR ICING CYCLES PER MINUTE; CLEAN MUFFLER (60)	CHECK FOR LOOSE CONNECTIONS REFILL, REPRIME OR FLUSH RUN PUMP AT LOWER PRESSURE; RUN AT LOWER
PUMP RUNS CONTINUOUSLY	EMPTY FLUID SUPPLY BLOCKAGE IN PUMP TUBE OR FOOT SEAL (13) HIGH PRESSURE SEAL (24) IS WORN OR DAMAGED	REFILL, REPRIME OR FLUSH REMOVE PUMP TUBE, CLEAR BLOCKAGE REPLACE
FLUID OUTPUT ON ONE STROKE ONLY OR CONTINUES TO OPERATE WHEN DISPENSING VALVE IS CLOSED	HIGH PRESSURE BALL (22) IS STUCK IN GREASE PISTON (23) OR ONE OR BOTH ARE DAMAGED	REPLACE BALL AND RESEAT
PUMP OPERATES, BUT PUMP OUTPUT ON BOTH STROKES IS LOW	INADEQUATE AIR SUPPLY PRESSURE OR RESTRICTED AIR LINE CLOSED OR CLOGGED SOLENOID VALVE, METER, DISPENSING VALVE, ETC. AIR INLET STRAINER/FILTER CLOGGED ORIFICE IN LOWER INTAKE DISK (ITEM 28) PLUGGED.	INCREASE AIR SUPPLY; INCREASE AIR LINE SUPPLY SIZE CLEAR(1) CLEAR(1) REMOVE MATERIAL FROM ORIFICE.

PUMP DIMENSIONS



L791150-009

Dim "A" = 18"

Dim "B" = 36-3/4"

Dry Weight = 15 lb.

L791150-010

Dim "A" = 28"

Dim "B" = 46-3/4"

Dry Weight = 17 lb.

L791150-011

Dim "A" = 34"

Dim "B" = 52-3/4"

Dry Weight = 19 lb.

NOTES

Customer Service (877-452-0157)

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- Part number look-ups
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