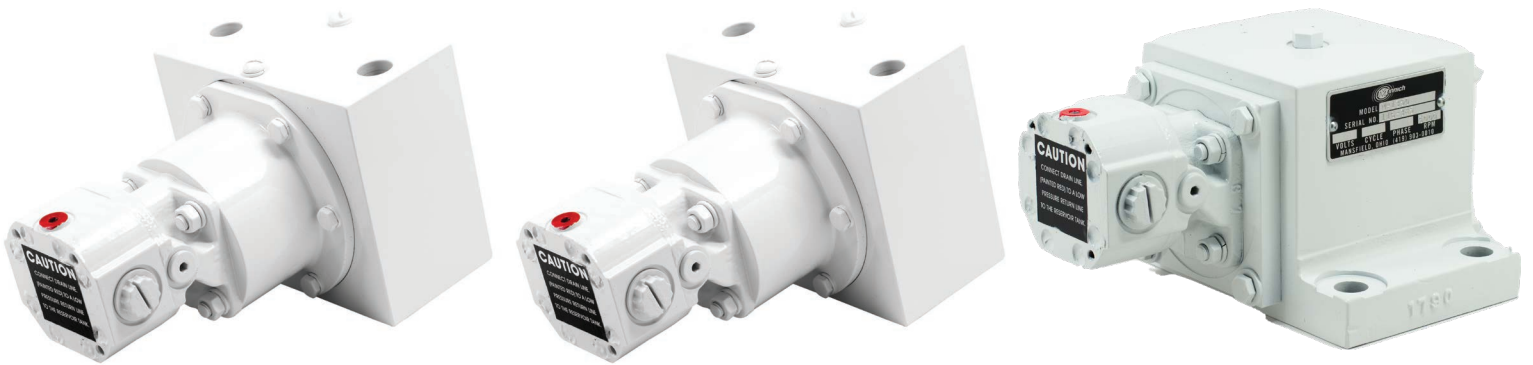


# MINNICH

## HYDRAULIC EXTERNAL VIBRATOR SERVICE MANUAL



### MINNICH MANUFACTURING

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### CONTACT

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## TABLE OF CONTENTS

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Chapter 1-Introduction.....	2
General Warnings.....	3
General Safety.....	4
Chapter 2-Parts Manual.....	9
General Specifications.....	9
Parts Manual.....	10
Notes.....	13
Warranty.....	14
Parts Ordering Online.....	15

### **NOTICE**

It is Minnich's policy to constantly strive to improve our products. The information, specifications, and illustrations in this publication are based on the information in effect at the same time as approval for printing and publishing. Minnich therefore reserves the right to make changes in design and improvements whenever it is believed the efficiency of the machine which has been shipped or curreing any obligation to incorporate such improvements in any machine which has been shipped or is in service. It is recommended that users contact Minnich or a Minnich Dealer for latest revisions.

### **NOTICE**

If there are any questions regarding the machine or its application which are not covered in this manual or in other literature accompanying this unit, please contact your Minnich Dealer or Minnich Manufacturing at 419-903-0010 or [sales@minnich-mfg.com](mailto:sales@minnich-mfg.com)

**⚠ WARNING**

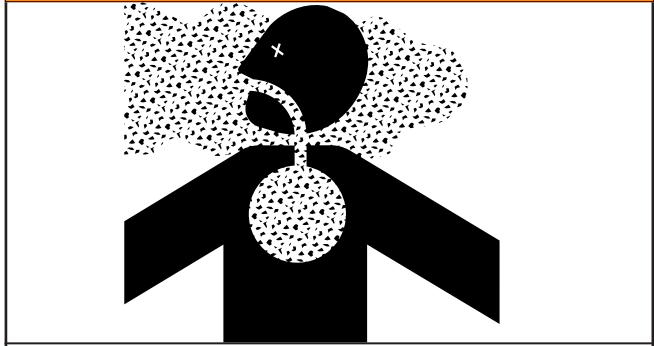
**CALIFORNIA PROPOSITION 65**

Engine exhaust and some of its constituents, and some dust created by power sanding, sawing, grinding, drilling and other construction activities contains chemicals known to the State of California to cause cancer, birth defects and other reproductive harm. Some examples of these chemicals are:

- Lead from lead-based paints.
- Crystalline silica from bricks.
- Arsenic and chromium from chemically treated lumbar.

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: ALWAYS work in a well ventilated area, and work with improved safety equipment, such as dust masks that are specifically designed to filter out microscopic particles.

**⚠ WARNING**



**SILICOSIS WARNING**

Grinding/cutting/drilling of masonry, concrete, metal and other materials with silica in their composition may give off dust or mist containing crystalline silica.

Silica is a basic components of sand, quarts, brick clay, granite and numerous other minerals and rocks. Repeated and/or substantial inhalation of airborne crystalline silica can cause serious or fatal respiratory disease, including silicosis. In addition, California and some authorities have listed repairable crystalline silica as a substance known to cause cancer. When cutting such materials, always follow the respiratory precautions mentioned above.

**⚠ WARNING**

**RESPIRATORY HAZARDS**



Grinding/cutting/drilling of masonry, concrete, metal and fumes containing chemicals known to cause serious or fatal injury or illness, such as respiratory disease, cancer, birth defects or other reproduction harm, if you are unfamiliar with the risks associated with the particular process and/or material being cut or the composition of the tool being used, review the material safety data sheet and/or consult your employer, the material manufacturer/supplier, governmental agencies such as OSHA and NIOSH and other sources on hazardous materials. California and some other authorities, for instance, have published lists of substances known to cause cancer, reproductive toxicity or other harmful effects.

Control dust, mist and fumes at the source where possible. In this regard use good work practices and follow the recommendations of the manufactures of suppliers, OSHA/NIOSH, and occupational and trade associations. Water should be used for dust suppression when wet cutting is feasible. When the hazards from inhalation of dust, mist and fumes cannot be eliminated, the operator and any bystanders should always wear a respirator approved by NIOSH/MSHA for the materials being used.

## GENERAL SAFETY

Do not operate or service the equipment before reading the entire manual. Safety precautions should be followed at all times when operating this equipment. Failure to read and understand the safety messages and operating instructions could result in injury to yourself and others.

This operation manual has been developed to provide complete instruction for the safe and efficient operation. Refer to the engine manufactures instructions for data relative to its safe operation. Before using, ensure that the operation individual has read and understood all instructions in the manual. The surrounding environment and you, could be damaged if you do not follow instructions.

### SAFETY MESSAGES

The four safety messages shown below will inform you about potential hazards that could injure you or others. The safety messages specifically address the level of exposure to the operator and are preceded by one of four words: DANGER, WARNING, NOTICE or NOTICE.

**⚠ DANGER**  
Indicates a hazardous situation which, if not avoided, WILL result in DEATH or SERIOUS INJURY


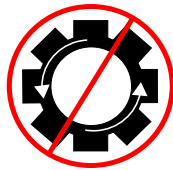
**⚠ WARNING**  
Indicates a hazardous situation which, if not avoided, COULD result in DEATH or SERIOUS INJURY

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

**NOTICE**  
Addresses practices not related to personal injury

### SAFETY SYMBOLS

Potential hazards associated with the operation of this equipment will be referenced with hazards symbols which may appear throughout this manual in conjunction with safety messages.

SYMBOL	SAFETY HAZARD
	Burn hazard
	Factory Settings

**⚠ WARNING**  
**DO NOT USE TOOL IF IT IS IN NEED OF SERVICE!**

## GENERAL SAFETY

### ⚠ CAUTION

△ NEVER operate this equipment without proper protective clothing, shatter proof glasses, respirator protection, hearing protection, steel-toes boots and other protective devices required by the job or city and state regulations.



△ Never operate this equipment when not feeling well due to fatigue, illness or when under medication.



△ NEVER operate this equipment under the influence of drugs or alcohol.



△ ALWAYS check the equipment for loosened threads or bolts before starting.

△ NEVER operate around corrosive chemicals or water containing toxic substances. These fluids could create serious health and environmental hazards. Contact local authorities for assistance.

△ DO NOT use the equipment for any purpose other than its intended purpose or applications.

### NOTICE

△ This equipment should only be operated by trained and qualified personnel 18 years of age and older.

△ This equipment is for industrial use only. Whenever necessary, replace nameplate, operation and safety decals when they become difficult to read.

△ Manufacturer does not assume responsibility for any accident due to equipment modifications. Unauthorized equipment modifications will void all warranties. Any modification which it could lead to change in the original characteristics of the machine should be

made only by the manufacturer who shall confirm that the machine is in compliance with appropriate safety regulations.

△ Never use accessories or attachments that are not recommended by Minnich for the equipment. Damage to the equipment and/or injury to user may result.

△ Always know the location of the nearest fire extinguisher.



△ ALWAYS know the location of the nearest first aid kit.



△ ALWAYS know the location of the nearest phone or keep a phone on the job site. Also, know the phone numbers of the nearest ambulance, doctor and fire department. This information will be invaluable in the case of an emergency.



### ⚠ DANGER

△ NEVER operate the equipment in an explosive atmosphere, near combustible materials, or near flammable or low flash point fluids. An explosion or fire could result causing severe bodily harm or even death.



### ⚠ WARNING

△ NEVER disconnect any emergency or safety devices. These devices are intended for operator safety. Disconnection of these devices can cause severe injury, bodily harm or even death. Disconnection of any of these will void all warranties.

△ NEVER operate equipment with the covers or guards removed. Keep fingers, hands, hair and clothing away from all moving parts to prevent injury. Wear clothing that will not likely become caught in the equipment or snag on any moving parts.

### ⚠ CAUTION

△ ALWAYS be sure the operator is familiar with the proper safety precautions and operating techniques before using.

△ NEVER leave the machine unattended. Turn off when unattended

## GENERAL SAFETY

- △ DO NOT expose vibrator to rain.
- △ DO NOT use vibrator motor in damp or wet locations without proper electrical circuits.
- △ DO NOT immerse the motor part in concrete.
- △ ALWAYS keep clear of rotating or moving parts while operating.
- △ NEVER leave the machine unattended while running
- △ ALWAYS disconnect the motor from the power source when not in use, before servicing, and when changing flexible shafting and vibrator heads.

- △ Allow the machine to cool before servicing. Contact with hot components can cause serious burns.



- △ Before Each use, ALWAYS check the motor to make certain that there are no damaged parts and that all parts function properly. If any damage or malfunctioning parts are found, have them repaired or replaced by an authorized service facility.

### NOTICE

- △ ALWAYS secure forms. Make sure the form work is well made and braced to withstand the stresses made by vibration.
- △ ALWAYS keep vibrator motor clean for better and safer operation.
- △ ALWAYS store equipment properly when it is not being used. Equipment should be stored in a clean, dry location out of reach of children and unauthorized personnel.
- △ Use only factory authorized replacement parts.
- △ Store idle vibrator motor. When not in use, motor should be stored in a dry, safe storage area.

### ⚠ WARNING

DO NOT USE TOOL IF IT IS IN NEED OF SERVICE!

### NOTICE

Decommissioning is a controlled process used to safely retire a piece of equipment that is no longer serviceable. If the equipment poses an unacceptable and unreparable safety risk due to wear or damage or is no longer cost effective to maintain (beyond life-cycle reliability) and is to be decommissioned (demolition and dismantlement), be sure to follow rules below.

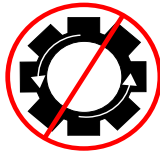
- △ ALWAYS observe all applicable compulsory regulations relevant to environmental protection, especially fuel storage, the handling of hazardous substances, and the wearing of protective clothing and equipment. Instruct the user as a necessary, or, as the user, request this information and training.
- △ ALWAYS Dispose of hazardous waste properly. Examples of potentially hazardous waste include used motor oil, fuel, and fuel filters.
- △ DO NOT use food or plastic containers to dispose hazardous waste.
- △ DO NOT pour waste or oil directly onto the ground, down or drain or into any waste source.

### NOTICE

- △ ALWAYS keep the machine in proper running condition.
- △ ALWAYS become familiar with the components of the machine before operation.
- △ Fix damage to machine and replace any broken parts immediately.
- △ ALWAYS store equipment properly when it is not being used. Equipment should be stored in a clean, dry location out of the reach of children and unauthorized personnel.
- △ NEVER lubricate components or attempt service on a running machine

### ⚠ CAUTION

△ NEVER tamper with the factory settings of the engine or engine governor. Damage to the engine or equipment can result in operation in speed ranges above the maximum allowability.



### PERSONAL SAFETY

- △ Stay alert, watch what you are doing, and use common sense when operating the machine.
- △ DO NOT use the tool while tired or under the influence of drugs, alcohol, or medication. A moment of inattention while operating power tools may result in serious personal injury or death.
- △ Dress properly. DO NOT wear loose clothing or jewelry. Tie up long hair. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewelery, or long hair can be caught in moving parts.
- △ DO NOT overreach. Keep proper footing and balance at all times. Proper footing and balance enables better control in unexpected situations.

### SERVICE

- △ Tool service must be preformed only by qualified repair personnel. Service or maintained preformed by unqualified personnel could result in injury or death
- △ When servicing a tool, use only identical replacement parts. Use of unauthorized parts may create a risk of injury or death.

### NOTICE

Specifications and part numbers are subject to change without notice.

### NOTICE

To find the latest revision of this publication, visit our website at: [www.minnich-mfg.com](http://www.minnich-mfg.com)

### NOTICE

THIS MANUAL MUST ACCOMPANY THE EQUIPMENT AT ALL TIMES.

### PLACEMENT AND CONSOLIDATION

### NOTICE

The force exerted by an internal concrete vibrator is controlled by the weight and the speed at which the eccentric rotates. The centrifugal force exerted can be arrived at by various combinations of weight (size of eccentric weight) and the speed at which the weight rotates. For years the most favorable working speed for a vibrator was considered to be around 10,200 RPM (VPM) and consequently this figure is used in many vibrator comparisons. More recently, the optimum speed for compaction has been accepted as being between 7500 and 9000 RPM.

### SERVICE

- △ Have your power tool serviced by a qualified repair person using inky identical replacement parts. This will ensure the safety of the power tool is maintained.

### ENVIRONMENTAL SAFETY/DECOMMISSIONING

### NOTICE

- △ Contact you country department of Public Works or recycling agency in your area and arrange for proper disposal of any electrical components, waste or oil associated with this equipment.
- △ When the life-cycle of this equipment is over it is recommended that the head casing and all other metal parts be sent to a recycling center.



### NOTICE

- △ CLEAR AIR SUPPLY LINE: Before connecting vibrator, clear the compressed air supply line of possible impurities, contaminants and water.
- △ LUBRICATE: Every day or every four hours of continuous service, pour a ½ teaspoon of non-detergent oil into the quick release coupling. NOTE: An optional oiler/strainer is available.
- △ The relationship between speed and centrifugal force of a vibrator is not a straight line function. The centrifugal force varies as the square of the speed. This results in that a 10% change in RPM will be reflected by a 21% change in the centrifugal force and a 20% change in RPM will be reflected by a 44% change in the centrifugal force.
- △ When concrete, a mixture of cement, sand, aggregates and water, is placed it contains a high volume of entrapped air. If the concrete is allowed to harden in this condition, it will be porous, non-uniform in consistency and weak. Therefore, concrete must be consolidated to attain acceptable results. The most widely used method for concrete consolidation is vibration and for slip form paving this is accomplished by an internal vibrator.

### CONNECT/START

#### NOTICE

If the vibration intensity drops, check that the filters are not clogged or that hoses are not kinked.

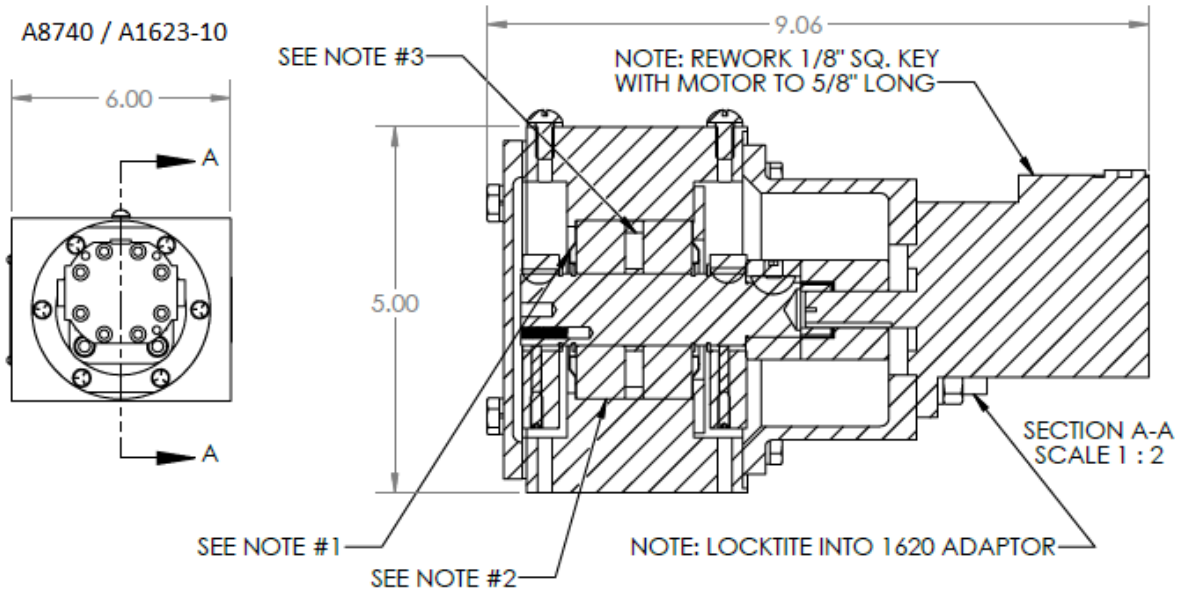
### STORAGE

#### NOTICE

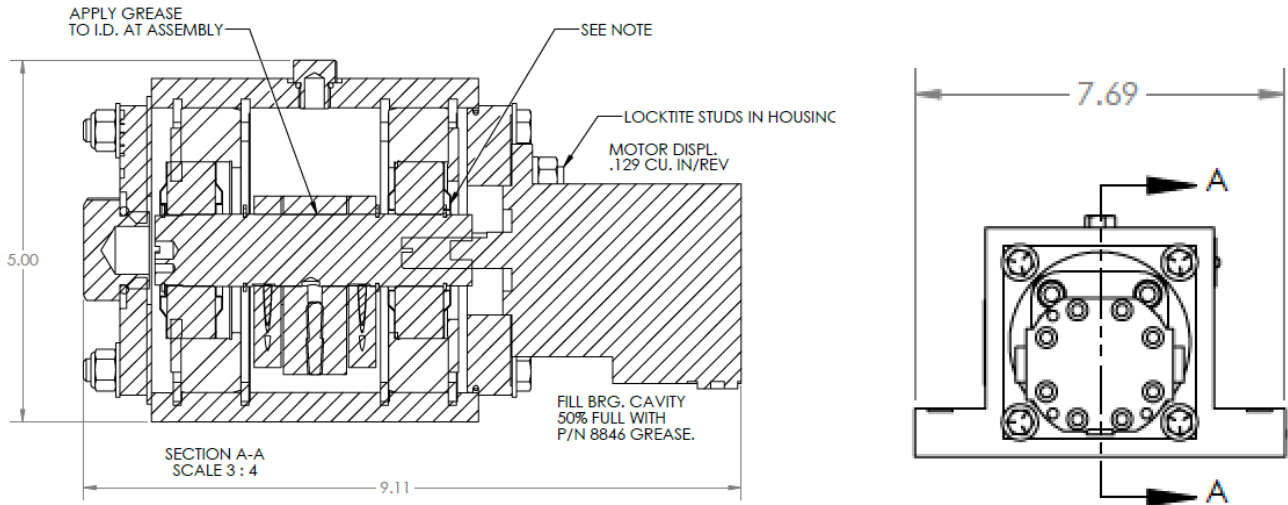
To properly store unit after use, hang the vibrator with the head up and set the handle (variable control assembly) in the open position to permit the discharge of possible impurities, contaminants and water.



**M-1700/ M-1200 SPECIFICATIONS**



**M-1350 SPECIFICATIONS**



**EXTERNAL VIBRATORS**

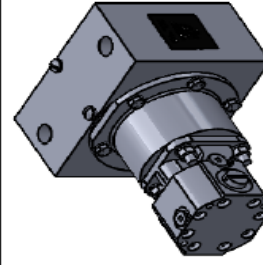
**M-1700**

**M-1200**

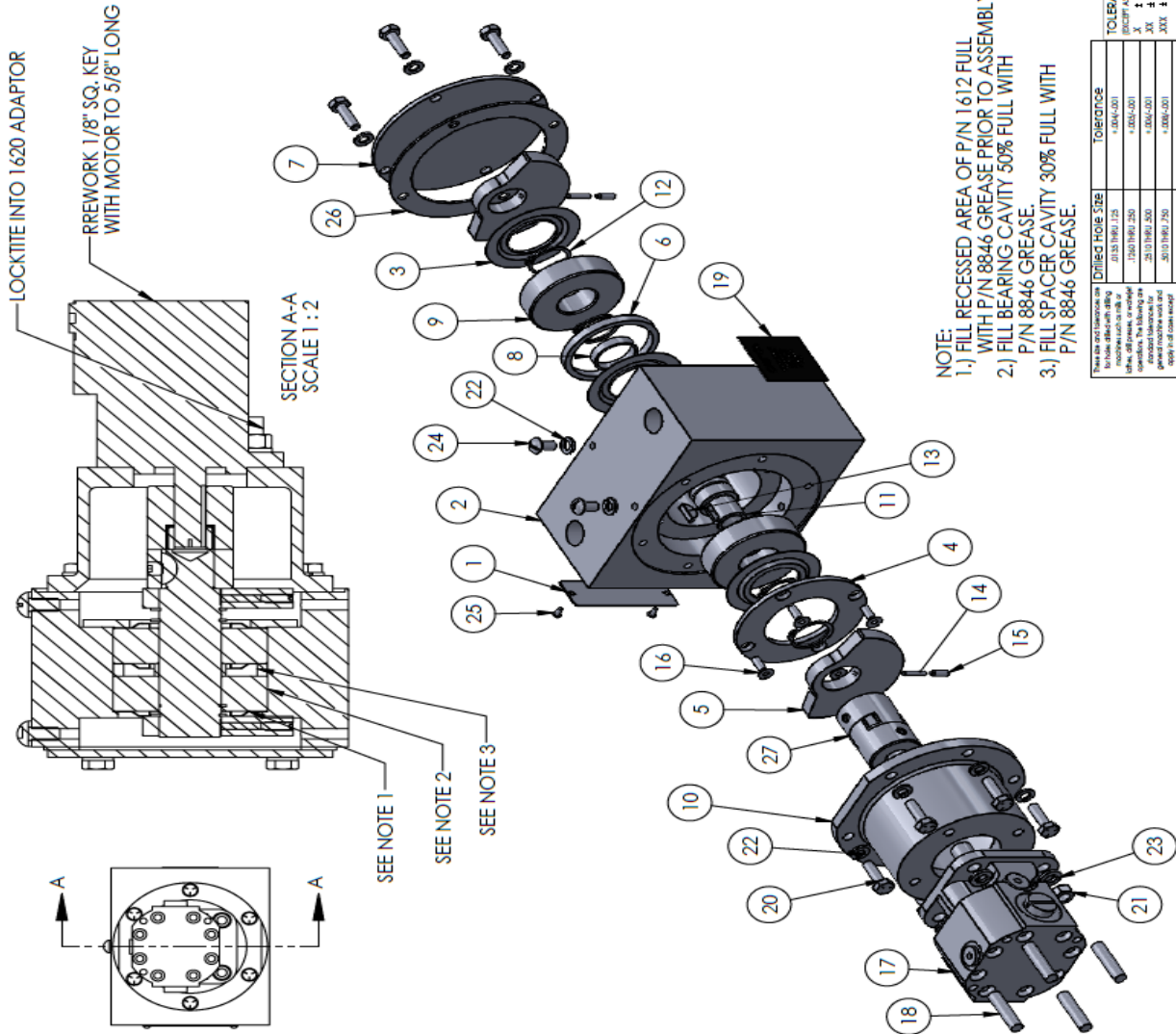
**M-1350**

EXTERNAL VIBRATORS	M-1700	M-1200	M-1350
VPM	9,000	9,000	6,000
CENTRIFUGAL FORCE	1700lbs. (7561.98N)	1200lbs. (5337.87N)	235.0-1350lbs. (1045.33-6005.10N)
MAXIMUM FLOW	5.30GPM (20.1l/min)	5.30GPM (20.1l/min)	3.53GPM (13.4l/min)
WEIGHT	20.1lbs. (9.12kg)	17.8lbs. (8.07kg)	21.1lbs. (9.57kg)

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	708	SERIAL TAG	1
2	1611	HOUSING VIBRATOR	1
3	1612	SHIELD BEARING	3
4	1613	RETAINER BEARING	1
5	1614	WEIGHT ECCENTRIC	2
6	1615-1	BEARING SPACER	1
7	1616	COVER	1
8	1617	SPACER BEARING I.D.	1
9	1618	BEARING	2
10	1620	ADAPTOR MOTOR	1
11	1621	SHAFT	1
12	1624	RETAINING RING	4
13	1625	98481A110	1
14	1627	PIN DOWEL 1/8 X 5/8	2
15	1628	SET SC HALF DOG 8-32 X 1/2	2
16	1632	FH SOCKET SC	4
17	1686	MOTOR HYDRAULIC	1
18	1785	STUD	4
19	5522	DECAL	1
20	6036-0.875	HHCS, 1/4-20 X 7/8 GR.5	10
21	6071	NUT, HEX 5/16-18	4
22	6147	LOCKWASHER 1/4	12
23	6148	LOCKWASHER 5/16	4
24	6259-0.50	RHMS, 1/4-20 X 1/2 SLOTTED	2
25	6262-1	SCREW, DRIVE HD RD. #4 X 1/4"	2
26	8665	GASKET	1
27	A1619-10	COUPLING - DRIVE ASSEMBLY	1



REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
B	ARCHIVED AT REV B	06/12/2020	RJ



- NOTE:**
- 1.) FILL RECESSED AREA OF P/N 1612 FULL WITH P/N 8846 GREASE PRIOR TO ASSEMBLY.
  - 2.) FILL BEARING CAVITY 50% FULL WITH P/N 8846 GREASE.
  - 3.) FILL SPACER CAVITY 30% FULL WITH P/N 8846 GREASE.

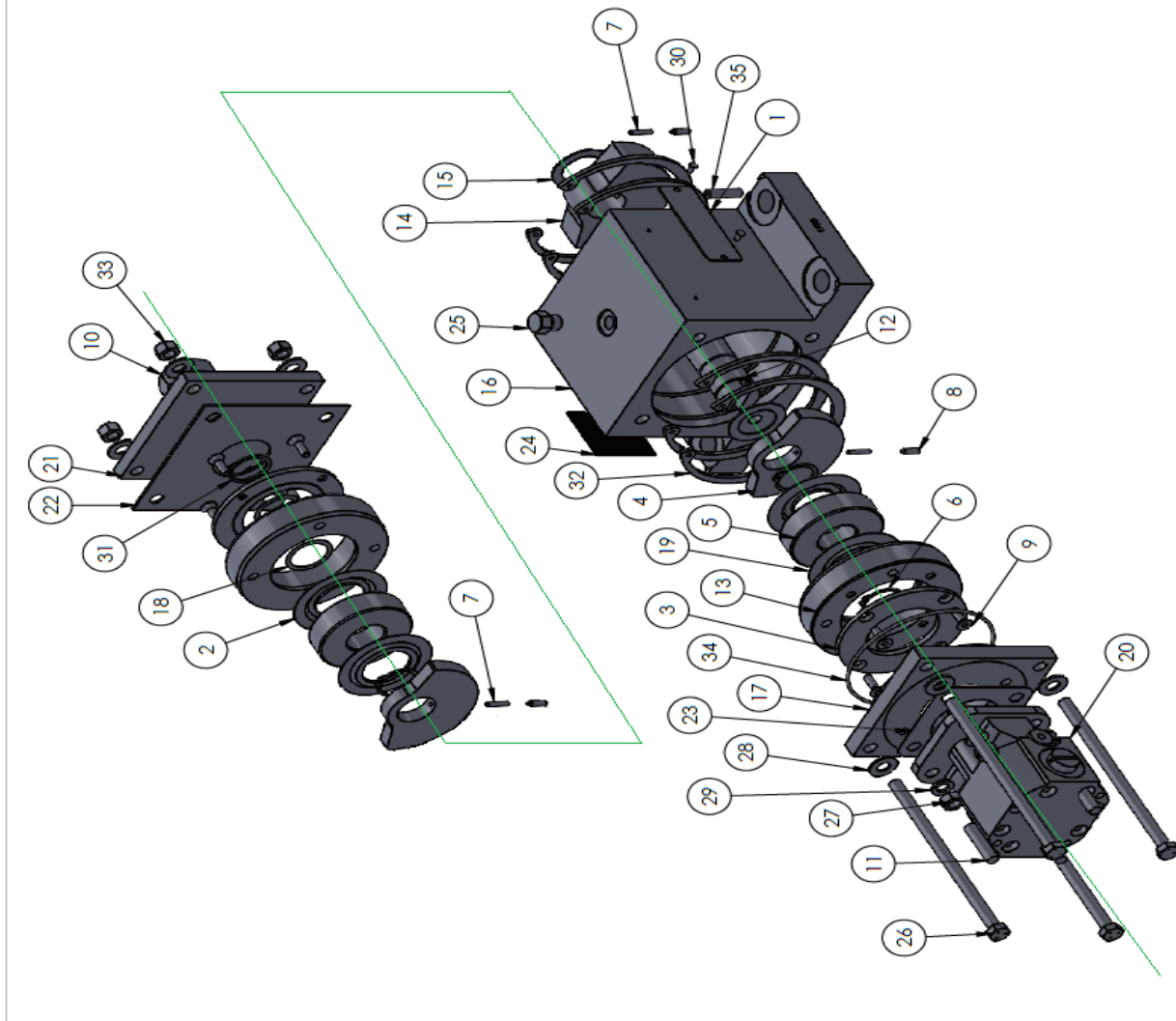
Unified Hole Size	Tolerance
1/32 (0.03125)	+0.001/-0.001
1/16 (0.0625)	+0.001/-0.001
3/32 (0.09375)	+0.001/-0.001
1/8 (0.125)	+0.001/-0.001
5/32 (0.15625)	+0.001/-0.001
3/16 (0.1875)	+0.001/-0.001
1/4 (0.25)	+0.001/-0.001
5/16 (0.3125)	+0.001/-0.001
3/8 (0.375)	+0.001/-0.001
1/2 (0.5)	+0.001/-0.001
5/8 (0.625)	+0.001/-0.001
3/4 (0.75)	+0.001/-0.001
7/8 (0.875)	+0.001/-0.001
1 (1.0)	+0.001/-0.001

TOLERANCES:	Dimension in accordance with ANSI Y14
SIZE	FRACTIONAL
XX	± .000
XXX	± .005
XXX	1/16"
C	1/8"

TITLE:	EXTERNAL VIBRATOR M-1200
ROUTING NO.	A1623-10
LOCATION	
DATE	06/12/2020
REV. LEVEL	B

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	708	SERIAL TAG	1
2	1612	SHIELD BEARING	2
3	1613	RETAINER BEARING	2
4	1614	WEIGHT ECCENTRIC BEARING	2
5	1618	BEARING	2
6	1624	RETAINING RING	3
7	1627	PIN DOWEL 1/8 X 5/8	2
8	1628	SET SC HALF DOG 8-32 X 1/2	2
9	1632	FH SOCKET SC	8
10	1783	RECUT O-RING BOSS PLUG	1
11	1785	STUD	4
12	1786	VIBRATOR SHAFT	1
13	1787	BEARING SPACER RING	2
14	1788	ECCENTRIC WEIGHT	1
15	1789	SPACER	2
16	1790	VIBRATOR HOUSING	1
17	1791	FRONT COVER	1
18	1792	WAVE SPRING WASHER	2
19	1793	BEARING SHIELD	2
20	1794	MOTOR HYDRAULIC	1
21	1797	REAR COVER	1
22	5364	GASKET	1
23	5379	GASKET	1
24	5522	DECAL	1
25	6017-3	PLUG, O-RING BOSS 04	1
26	6037-6.00	HCHS 5/16"-18 X 6.00 GR5	4
27	6071	NUT, HEX 5/16-18	4
28	6106	WASHER 5/16"	8
29	6148	LOCKWASHER 5/16	4
30	6262-1	SCREW, DRIVE HD RD. #4 X 1/4"	2
31	6377-7	EXTERNAL RETAINING RING	1
32	6378-5	INTERNAL RETAINING RING	4
33	6403	LOCKNUT 5/16"18	4
34	6412-44	O-RING	1
35	6734	CONE POINT SET SCREW	1

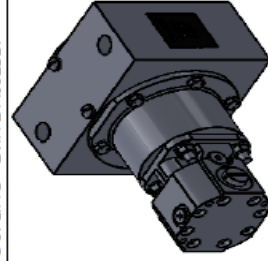
A1782 ECCENTRIC WEIGHT LOCATING TOOL INCLUDED



Drilled Hole Size	Tolerance
Ø1.31 (10.0)	+0.004 (-0.01)
Ø1.32 (10.0)	+0.004 (-0.01)
Ø1.33 (10.0)	+0.004 (-0.01)
Ø1.34 (10.0)	+0.004 (-0.01)
Ø1.35 (10.0)	+0.004 (-0.01)
Ø1.36 (10.0)	+0.004 (-0.01)
Ø1.37 (10.0)	+0.004 (-0.01)
Ø1.38 (10.0)	+0.004 (-0.01)
Ø1.39 (10.0)	+0.004 (-0.01)
Ø1.40 (10.0)	+0.004 (-0.01)

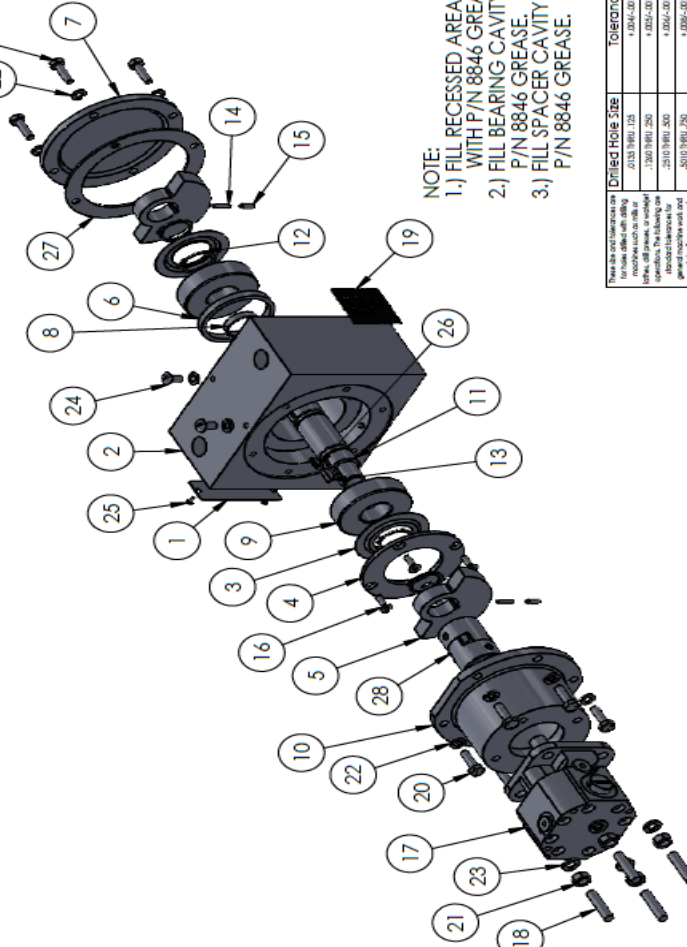
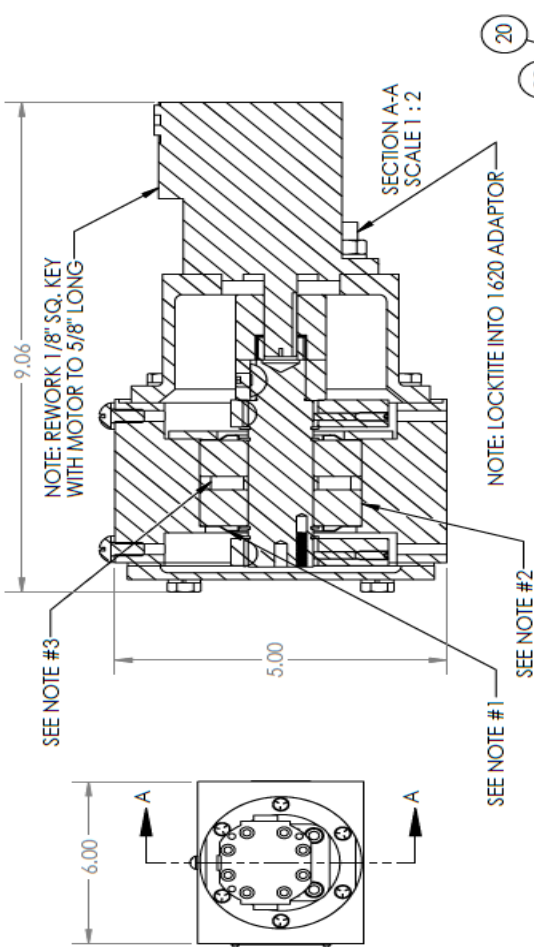
TOLERANCES  
 DIMENSIONS IN ACCORDANCE WITH ANSI Y14.1  
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 XX ± .005  
 XXX ± .010  
 XXXX ± .015  
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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	708	SERIAL TAG	1
2	1611	HOUSING-VIBRATOR	1
3	1612	SHIELD BEARING	2
4	1613	RETAINER BEARING	1
5	1614-1	ECCENTRIC WEIGHT	2
6	1615	SPACER	1
7	1616-1	COVER	1
8	1617	SPACER BEARING I.D.	1
9	1618	BEARING	2
10	1620	ADAPTOR MOTOR	1
11	1621-1	SHAFT	1
12	1624	RETAING RING	4
13	1625	98481A110	1
14	1627	PIN DOWEL 1/8 X 5/8	2
15	1628	SET SC HALF DOG 8-32 X 1/2	2
16	1632	FH SOCKET SC	4
17	1686	MOTOR HYDRAULIC	1
18	1785	STUD	4
19	5522	DECAL	1
20	6036-0.875	HHCS, 1/4-20 X 7/8 GR.5	10
21	6071	NUT, HEX 5/16-18	4
22	6147	LOCKWASHER 1/4	12
23	6148	LOCKWASHER 5/16	4
24	6259-0.50	RHMS, 1/4-20 X 1/2 SLOTTED	2
25	6262-1	SCREW, DRIVE HD RD. #4 X 1/4"	2
26	6472-9	KEY, WOODRUFF 1/8 X 1/2	2
27	8665	GASKET	1
28	A1619-10	COUPLING - DRIVE ASSEMBLY	1



#	EXTERNAL VIBRATOR	LOCATION
MANUFACTURED BY: MANNESMANN DEMCO, INC.		
FOR INFORMATION BEARING ON THE BEARING ACCUMULATOR, TUBING, VALVES, & AIR DISTRIBUTOR IS SMALL NOT BE IDENTIFIED TO THIS WATER SERVICE SYSTEM, PROCEED WITH CAUTION.		
DO NOT SCALE DRAWING	DRAWN BY: RJ	CHECKED BY:
TITLE: EXTERNAL VIBRATOR M-1700	APPROVED BY:	ORIG DATE: 06/12/2020
ROUTING NO. DRAWING NUMBER: A8740		KEY LEVEL: A

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	ARCHIVED AT REV A	06/15/2020	RJ



NOTE:  
 1.) FILL RECESSED AREA OF P/N 1612 FULL WITH P/N 8846 GREASE PRIOR TO ASSEMBLY.  
 2.) FILL BEARING CAVITY 50% FULL WITH P/N 8846 GREASE.  
 3.) FILL SPACER CAVITY 30% FULL WITH P/N 8846 GREASE.

Drilled Hole Size	Tolerance
0.133 (18) 1/16	+0.004(-0.001)
0.1875 (18) 3/16	+0.004(-0.001)
0.250 (18) 1/4	+0.004(-0.001)
0.3125 (18) 5/16	+0.004(-0.001)
0.375 (18) 3/8	+0.004(-0.001)
0.4375 (18) 7/16	+0.004(-0.001)
0.500 (18) 1/2	+0.004(-0.001)
0.5625 (18) 9/16	+0.004(-0.001)
0.625 (18) 5/8	+0.004(-0.001)
0.6875 (18) 11/16	+0.004(-0.001)
0.750 (18) 3/4	+0.004(-0.001)
0.8125 (18) 13/16	+0.004(-0.001)
0.875 (18) 7/8	+0.004(-0.001)
0.9375 (18) 15/16	+0.004(-0.001)
1.000 (18) 1	+0.004(-0.001)



## LIMITED WARRANTY, DISCLAIMER AND REMEDIES

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Supplier warrants to Customer that the Services shall be provided in a workmanlike manner and that the Goods shall be free from defects in material and workmanship at the date of shipment from Supplier's facility. This warranty shall not run to any person other than Customer.

All claims under this warranty must be made in writing and delivered to Supplier prior to the expiration of one (1) year after the Goods have been delivered (or, if applicable, within one (1) year after the Services have been performed) or be forever barred. Supplier will repair or replace Goods or parts recognized and acknowledged by Supplier as being defective at the time of delivery without charge. However, Supplier will bill Customer for Goods and/or Services not covered by the warranty, including travel expenses incurred while performing warranty service calls. EQUIPMENT, COMPONENTS OR OTHER GOODS FURNISHED THAT ARE NOT MANUFACTURED BY SUPPLIER ARE ONLY COVERED TO THE EXTENT OF THE ORIGINAL MANUFACTURER'S WARRANTY, WHICH MAY VARY FROM THE ABOVE. Further, the above warranty shall not apply to any hardware or software that has been repaired or altered without Supplier's written permission by anyone other than Supplier's personnel. The foregoing states the sole and exclusive remedy for any breach of warranty or for any other claim based on any defect in, or nonperformance of, the Goods or Services, whether based upon contract, warranty, negligence, tort (including strict liability) or otherwise.

NO EXPRESS WARRANTIES AND NO IMPLIED WARRANTIES, WHETHER OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OR WEAR CAPACITY, OR OTHERWISE, SHALL APPLY TO THE GOODS AND SERVICES. SUPPLIER SPECIFICALLY DISCLAIMS AND EXCLUDES ALL OTHER EXPRESS AND IMPLIED WARRANTIES. NO WAIVER, ALTERATION, ADDITION OR MODIFICATION OF THE FOREGOING SHALL BE VALID UNLESS MADE IN WRITING AND SIGNED BY AN EXECUTIVE OFFICER OF SUPPLIER. IN NO EVENT WILL SUPPLIER BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.

### WHAT IS NOT COVERED

This Limited Warranty does not cover any damage, deterioration or malfunction resulting from normal wear or tear, or any alteration, modification, improper or unreasonable use or maintenance, misuse, abuse, accident, neglect, exposure to excess moisture, fire, improper packing and shipping (such claims must be presented to the carrier), lightning, power surges, or other acts of nature. This Limited Warranty does not cover any damage, deterioration or malfunction resulting from the installation or removal of this product from any installation, any unauthorized tampering with this product, any repairs attempted by anyone unauthorized by Minnich to make such repairs, or any other cause which does not relate directly to a defect in materials and/or workmanship of this product.

### WHAT IS COVERED

This limited warranty ("Limited Warranty") covers manufacturing defects in materials and workmanship of a product.

### WHO IS COVERED:

Only the original purchaser of this product is covered under this Limited Warranty. This Limited Warranty is not transferable to subsequent purchasers or owners of this product. The product must have been purchased directly from Minnich or from an authorized Minnich reseller.

**ORDER VIA INTERNET!**

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Order Online:  
<https://www.minnich-mfg.com/login>



- View parts
- Order Parts
- Print specific information
- If you don't have a login give us a call.

**ORDER VIA PHONE!**

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Contact us at:  
419-903-0010

**WE ACCEPT THE FOLLOWING CARDS!**

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**SCAN FOR HELPFUL VIDEOS!**

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**NON-DEALER AND INTERNATIONAL CUSTOMERS:**

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Contact Minnich Manufacturing through the following number to locate a dealer near you.  
(419-903-0010)

**NOTICE**

All orders are treated as Standard Orders and will ship the same day if received prior to 3PM EST