



A RUTHMAN COMPANY

7550
VORTEX
SERIES

**52 HEAVY DUTY, 53 HEAVY DUTY AND
54 HEAVY DUTY POWER FRAMES**

INSTRUCTION MANUAL

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PRECAUTIONS

!WARNING!

PERSONAL INJURY MAY RESULT IF PROCEDURES OUTLINED IN THIS MANUAL ARE NOT FOLLOWED

- NEVER APPLY HEAT TO REMOVE IMPELLER. IT MAY EXPLODE DUE TO TRAPPED LIQUID.
- NEVER USE HEAT TO DISASSEMBLE PUMP. EXPLOSION COULD OCCUR DUE TO TRAPPED LIQUID.
- NEVER OPERATE PUMP WITHOUT COUPLING GUARD CORRECTLY INSTALLED.
- NEVER OPERATE PUMP BEYOND THE RATED CONDITIONS TO WHICH THE PUMP WAS SOLD.
- NEVER START PUMP WITHOUT PROPER PRIME (SUFFICIENT LIQUID IN PUMP CASING).
- NEVER OPERATE PUMP BELOW RECOMMENDED MINIMUM FLOW OR WHEN DRY.
- ALWAYS LOCK OUT POWER TO THE MOTOR BEFORE PERFORMING PUMP MAINTENANCE.
- NEVER OPERATE PUMP WITHOUT SAFETY DEVICES INSTALLED.
- NEVER OPERATE PUMP WITH DISCHARGE VALVE CLOSED.
- NEVER OPERATE PUMP WITH SUCTION VALVE CLOSED.
- DO NOT CHANGE CONDITIONS OF SERVICE WITHOUT APPROVAL OF AN AUTHORIZED GUSHER REPRESENTATIVE.

PUMP SAFETY TIPS

SAFETY APPAREL

- INSULATED WORK GLOVES WHEN HANDLING HOT BEARINGS OR USING BEARING HEATER.
- HEAVY WORK GLOVES WHEN HANDLING PARTS THAT HAVE SHARP EDGES, ESPECIALLY IMPELLERS.
- SAFETY GLASSES (WITH SIDE SHEILDS) TO PROTECT EYES, ESPECIALLY IN MACHINE SHOP AREAS.
- STEEL-TOED SHOES TO PROTECT FEET WHEN HANDLING PARTS, HEAVY TOOLS, ETC.
- ANY OTHER EQUIPMENT NEEDED TO PROTECT AGAINST HAZARDOUS/TOXIC FLUIDS.

COUPLING GUARDS

- NEVER OPERATE A PUMP WITHOUT COUPLING GUARDS PROPERLY INSTALLED.

FLANGED CONNECTIONS

- NEVER FORCE PIPING TO MAKE CONNECTION WITH A PUMP.
- USE ONLY FASTENERS OF PROPER SIZE AND MATERIAL.
- ENSURE THERE ARE NO MISSING FASTENERS.
- BEWARE OF CORRODED OR LOOSE FASTENERS.

OPERATION

- DO NOT OPERATE BELOW MINIMUM RATED FLOW, OR WITH SUCTION/DISCHARGE VALVES CLOSED.
- DO NOT OPEN VENT OR DRAIN VALVES, OR REMOVE PLUGS WHILE THE SYSTEM IS PRESSURIZED.

MAINTENANCE SAFETY

- ALWAYS LOCKOUT POWER
- ENSURE PUMP IS ISOLATED FROM THE SYSTEM AND PRESSURE IS RELIVED BEFORE DISASSEMBLING PUMP, REMOVING PLUGS, OR DISCONNECTING PIPING.
- USE PROPER LIFTING AND SUPPORTING EQUIPMENT TO PREVENT SERIOUS INJURY.
- OBSERVE PROPER DECONTAMINATION PROCEDURES.
- KNOW AND FOLLOW COMPANY SAFETY REGULATIONS.
- NEVER APPLY HEAT TO REMOVE IMPELLER.

FOREWARD

THE DESIGN, CRAFTSMANSHIP, AND MATERIALS USED IN GUSHER PUMPS PROVIDES FOR OPTIMUM PERFORMANCE AND LONG, TROUBLE-FREE SERVICE. AS WITH ANY MECHANICAL DEVICE, PROPER USE AND PERIODIC MAINTENANCE WILL ENHANCE THE PERFORMANCE AND LIFE OF YOUR PUMP. THIS MANUAL IS PROVIDED AS A GUIDELINE FOR PROPER INSTALLATION, OPERATION AND MAINTENANCE. **THIS MANUAL MUST BE READ AND UNDERSTOOD BEFORE INSTALLING AND OPERATING ANY PUMP.**

GUSHER PUMPS INC. SHALL NOT BE LIABLE FOR PHYSICAL INJURY, DAMAGE OR DELAYS CAUSED BY A FAILURE TO OBSERVE THE INSTRUCTIONS FOR INSTALLATION, OPERATION, AND MAINTENANCE CONTAINED IN THIS MANUAL.

WARRANTY

GUSHER PUMPS INC. WILL REPLACE OR REAIR, WITHIN ONE YEAR OF SHIPMENT FROM OUR PLANT, ANY PUMP IN OUR JUDGEMENT THAT HAS FAILED DUE TO DEFECTS IN MATERIALS OR WORKMANSHIP, PROVIDED THE PUMP HAS BEEN PROPERLY INSTALLED AND MAINTAINED AND HAS NOT BEEN SUBJECT TO ABUSE. THESE PUMPS MUST RETURN TO GUSHER PUMPS INC. WITH COMPLETE HISTORY OF SERVICE FOR INSPECTION AND WARRANTY CONSIDERATION. GUSHER PUMPS INC. DOES NOT ACCEPT THE RESPONSIBILITY FOR TRANSPORTATION TO AND FROM OUR PLANT. FURTHERMORE, WE DO NOT ASSUME ANY RESPONSIBILITY FOR CONSEQUENTIAL DAMAGE OR LOSS OF PRODUCTION.

WARRANTY IS ONLY VALID WHEN GENUINE GUSHER PARTS ARE USED.

SUPERVISION BY AN AUTHORIZED GUSHER REPRESENTATIVE IS RECOMMENDED TO ENSURE PROPER INSTALLATION. ADDITIONAL MANUALS CAN BE OBTAINED BY CONTACTING YOUR LOCAL GUSHER REPRESENTATIVE OR BY CALLING 859-824-5001.

RECEIVING AND INSPECTION

THE UTMOST CARE HAS BEEN TAKEN AT THE FACTORY TO ASSURE PROPER COUPLING ALIGNMENT AND IMPELLER ADJUSTMENT. HOWEVER, DUE TO CIRCUMSTANCES BEYOND OUR CONTROL, YOU MUST INSPECT THE PUMP UPON RECEIPT AND FOLLOW THE INSTALLATION INSTRUCTIONS COMPLETELY BEFORE START-UP.

RECEIVING

1. ROTATE SHAFT BY HAND. IF IT DOES NOT ROTATE FREELY:
 - A. CHECK IMPELLER ADJUSTMENT.
 - B. CHECK FOR BENT COUPLING GUARD.
 - C. CHECK SLINGER (#12).
 - D. CHECK FOR BENT SHAFT (#1).
2. CHECK FOR CRACKED OR DAMAGED PARTS. IF UPON RECEIPT, YOU FIND THE PUMP DAMAGED, FILE A CLAIM WITH THE DELIVERING CARRIER.
3. IF DRIVE MOTOR HAS BEEN SUPPLIED, CHECK THE R.P.M. AND HORSEPOWER TO BE SURE IT IS CORRECT AS ORDERED.
4. CHECK THE PUMP NAME TAG TO BE SURE WE HAVE SHIPPED CORRECTLY AS ORDERED:
 - A. MODEL NUMBER
 - B. HEAD IN FEET (FT. HD.)
 - C. GALLONS PER MINUTE (G.P.M.)
 - D. CONSTRUCTION:
 1. ALL IRON.
 2. ALL IRON WITH STAINLESS STEEL SHAFT AND IMPELLER.
 3. ALL STAINLESS STEEL.
5. IF THERE IS ANYTHING THAT APPEARS TO BE INCORRECT, CALL THE FACTORY IMMEDIATELY.

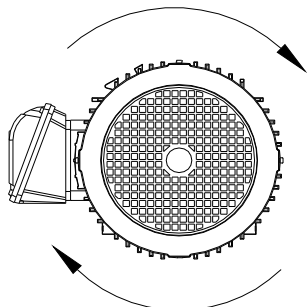
INSTALLATION

AFTER CAREFUL PRELIMINARY INSPECTION, YOU MAY PROCEED WITH THE INSTALLATION OF THE PUMP INTO YOUR SYSTEM.

1. LOWER THE PUMP INTO SYSTEM.
2. MAKE SURE MOUNTING PLATE IS SETTING FIRMLY ON THE SUPPORT CHANNELS. (IT MAY BE NECESSARY TO USE METAL SHIMS TO LEVEL PLATE.)
3. SECURE MOUNTING PLATE BY USING HOLD-DOWN SCREWS IN ALL FOUR CORNERS. AGAIN, CARE MUST BE TAKEN TO MAKE SURE PLATE IS FIRM AND LEVEL. **DO NOT** FORCE BOWED PLATE LEVEL. USE METAL SHIMS IF NECESSARY.
4. MAKING PIPE CONNECTIONS:
 - A. EXTREME CARE MUST BE TAKEN TO SUPPORT ALL PIPING WITHOUT CAUSING ANY STRAIN ON THE PUMP.
 - B. INSTALL PIPE HANGER ON THE DISCHARGE PIPE SO THAT ALL PIPING WEIGHT IS SUPPORTED BY THE HANGER AND NOT BY THE PUMP OR THE CASING.
 - C. BOLT HOLES MUST LINE-UP WITHOUT PRYING TO INSERT BOLTS.
 - D. WHEN TIGHTENING FLANGE BOLTS, PIPE FLANGES MUST NOT BE FORCED TOGETHER.
 - E. CHECK VALVE SHOULD BE PLACED IN DISCHARGE LINE BETWEEN GATE VALVE AND PUMP DISCHARGE PIPE TO PREVENT LIQUID FROM RUNNING BACK THROUGH THE PUMP AND CAUSING REVERSE ROTATION. THIS IS EXTREMELY IMPORTANT IN APPLICATIONS WITH INTERMITTENT DUTY WHERE THE PUMP MAY BE ROTATING BACKWARDS WHEN SERVICE IS RESUMED. THIS WILL CAUSE DAMAGE TO THE PUMP AND THE DRIVE MOTOR.
 - F. PRESSURE GAUGE SHOULD BE LOCATED AT THE PUMP DISCHARGE, AS ALL PERFORMANCE DATA IS TAKEN AT PUMP DISCHARGE.
 - G. IF INTAKE PIPING IS USED TO PUMP THE TANK DOWN, IT MUST ALSO BE SUPPORTED INDEPENDENTLY OF THE PUMP.

5. REMOVE COUPLING GUARD AND ROTATE COUPLING BY HAND. PUMP SHOULD ROTATE FREELY AT THIS POINT. IF IT DOES NOT, CHECK FOR:

- A. PIPING STRAIN: WITHOUT EXCEPTION, PIPE MUST NOT REST ON PUMP IN ANY MANNER. (SEE ITEM #4 OF THE INSTALLATION SECTION.)
- B. IMPELLER ADJUSTMENT:
 1. DISCONNECT COUPLING (#32) AND REMOVE SLEEVE (#32A).
 2. LOOSEN THREE LOCKING SCREWS (#57).
 3. LOOSEN THREE ADJUSTING SCREWS (#55).
 4. LIGHTLY TAP SHAFT (8) UNTIL HOUSING (4) BOTTOMS ON TO HOUSING (9).



ROTATION FROM
MOTOR END

5. TIGHTEN THREE LOCKING SCREWS (#57) UNTIL THEY TOUCH RETAINER (#1).
6. TIGHTEN ADJUSTING SCREWS (#55) AND JAMB NUTS (#56).
7. ROTATE COUPLING BY HAND TO BE SURE IMPELLER (#17) DOES NOT RUB. IF IMPELLER RUBS, REPEAT STEPS #1 THROUGH #6.
8. CONNECT COUPLING.

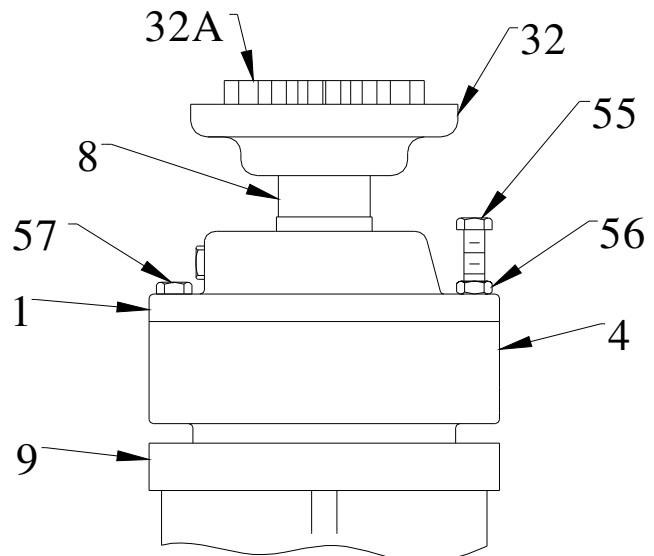
- C. SLINGER ADJUSTMENT: THE SLINGER (#12) IS SET AT THE FACTORY AND NORMALLY CAUSES NO PROBLEMS, BUT SHOULD BE CHECKED WHEN UNIT IS INSPECTED UPON ARRIVAL AT YOUR PLANT SITE AND BEFORE UNIT IS LOWERED INTO POSITION IN YOUR SYSTEM.

5. MAKE ELECTRICAL CONNECTION TO CONFORM WITH STATE AND LOCAL CODES. (IT IS ADVISED TO USE APPROXIMATELY 4' LENGTH OF FLEXIBLE CONDUIT TO FACILITATE REMOVAL OF MOTOR, IF REPAIR IS REQUIRED.)

UPON INITIAL START-UP, PUMPS MAY SEEM TO RUN TIGHT AND HOT. THIS IS CAUSED BY BREAKING-IN OF OIL SEALS AND BALL BEARINGS. PUMP WILL OPERATE NORMALLY AFTER APPROXIMATELY 150 HOURS OF SERVICE. BALL BEARINGS SHOULD NOT RUN OVER 225 DEGREES FAHRENHEIT. WHEN CHECKING TEMPERATURE USE A PYROMETER.

MAINTENANCE

1. LUBRICATION: ALL PUMPS ARE LUBRICATED AT THE FACTORY AND SHOULD NOT REQUIRE ADDITIONAL LUBRICATION AT START-UP. A WELL PLANNED MAINTENANCE SCHEDULE CAN ONLY BE DEvised AFTER CAREFUL OBSERVATION OF THE PUMP FOR THE FIRST SIX MONTHS OF OPERATION AND THE LUBRICATION THAT HAS BEEN REQUIRED. EACH PUMP INSTALLATION IS UNIQUE AND REQUIRES A DIFFERENT LUBRICATION SCHEDULE COMPATIBLE WITH THAT SPECIFIC OPERATION. USE CHEVRON SRI #2 BALL BEARING GREASE. **DO NOT OVER GREASE** AS IT WILL CAUSE BALL BEARINGS TO RUN HOT.
2. TO LUBRICATE:
 - DO NOT LUBRICATE WHILE SHAFT IS IN MOTION.**
 - A. LOCATE ZERK FITTINGS ON PARTS (#1) AND (#9).
 - B. FILL WITH GREASE UNTIL FRESH GREASE FLOWS FROM OPENING.



APPROXIMATE GREASING INTERVALS FOR GUSHER PUMPS

52VHD POWER FRAME

<u>TEMP. DEG. F.</u>	<u>1725 R.P.M.</u>	<u>3450 R.P.M.</u>
150 DEG.	5760 HRS.	2880 HRS.
175 DEG.	2880 HRS.	1440 HRS.
200 DEG.	1440 HRS.	720 HRS.
225 DEG.	720 HRS.	360 HRS.

53VHD POWER FRAME

<u>TEMP. DEG. F.</u>	<u>1725 R.P.M.</u>	<u>3450 R.P.M.</u>
150 DEG.	5760 HRS.	2880 HRS.
175 DEG.	2880 HRS.	1440 HRS.
200 DEG.	1440 HRS.	720 HRS.
225 DEG.	720 HRS.	360 HRS.

54 VHD POWER FRAME

<u>TEMP. DEG. F.</u>	<u>1725 R.P.M.</u>	<u>3450 R.P.M.</u>
150 DEG.	3840 HRS.	1920 HRS.
175 DEG.	1920 HRS.	960 HRS.
200 DEG.	960 HRS.	480 HRS.
225 DEG.	480 HRS.	240 HRS.

*USE CHEVRON SRI #2 OR SHELL DOLIUM 'R' BALL BEARING GREASE OR EQUIVILENT. REMOVE ALL OLD GREASE ONCE A YEAR AND CLEAN BALL BEARINGS AND BALL BEARING HOUSING WITH KEROSENE OR CARBON TETRACHLORIDE BECAUSE OF OXIDATION AND HARDENING OF THE GREASE OVER LONG PERIODS OF TIME.

*THIS IS AN APPROXIMATE LUBRICATION CHART FOR STANDARD PUMP OPERATION. CONSULT THE FACTORY FOR ANY ADVERSE OPERATION.

!WARNING!

DO NOT LUBRICATE WHILE SHAFT IS IN MOTION.

DO NOT OVERGREASE.

MAINTENANCE HISTORY

SERIAL NO. _____
MODEL NO. _____ IMP. DIA. _____
OPERATING COND. _____ GPM @ _____ FT. HEAD
HP _____ SPEED/RPM _____
START-UP DATE _____ AMPS AT START-UP _____
PRESSURE AT START-UP _____

ENGINEERING DATA

POWER FRAME	52HD	53HD	54HD
1. RADIAL BRG.	41211	41316	41319
2. THRUST BRG.	41308-DR	41312-DR	41314-DR
3. BALL BRG. SPAN	9.032	12.750	12.750
4. SHAFT DIA.'S			
@ RADIAL BRG.	2.1655	3.1497	3.7403
@ THRUST BRG.	1.5750	2.3623	2.7560
@ THROTTLE BUSH.	1.735	1.875	2.500
@ IMPELLER	1.375	1.500	1.750
BET. BALL BRG'S.	1.937	3.125	3.625
BET. RADIAL BRG & THROTTLE BUSH.	2.250	3.250	4.250

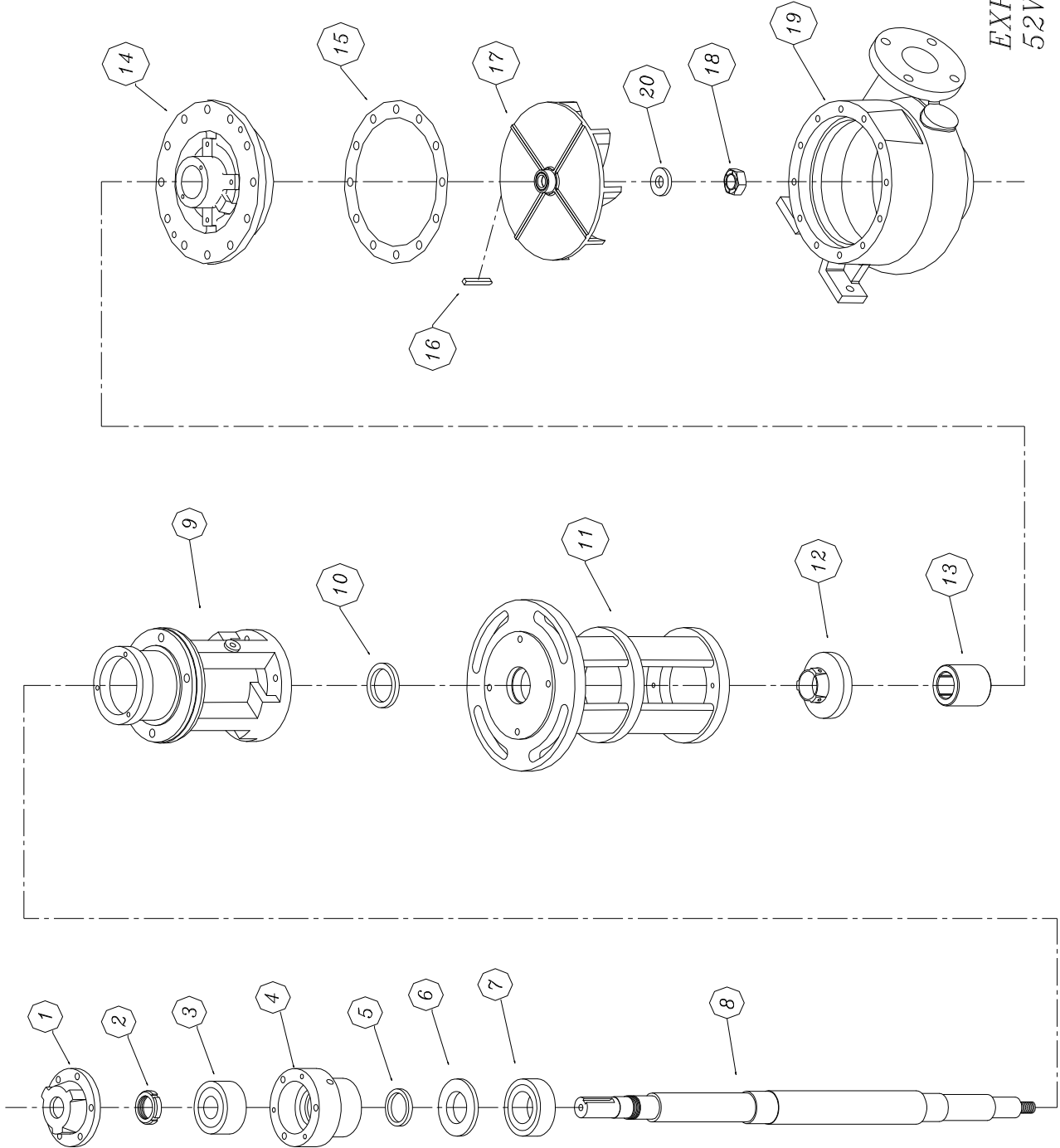
GREASE LUBRICATION

DATE	GREASED	DATE	GREASED
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

TYPE OF GREASE USED: _____

NOTES: _____

PART NO.	DESCRIPTION
1	BALL BRG. RETAINER
2	LOCK NUT
3	THRUST BALL BRG.
4	TELESCOPING BALL BRG. HOUSING
5	OIL SEAL
6	GREASE & RADIAL BRG. RETAINER
7	RADIAL BALL BRG.
8	SHAFT
9	BALL BRG. HOUSING
10	OIL SEAL
11	STEM
12	SLINGER
13	THROTTLE BUSHING
14	STEM PLATE
15	CASKET
16	KEY
17	IMPELLER
18	IMPELLER RETAINING NUT
19	IMPELLER HOUSING
20	IMPELLER RETAINING WASHER



EXPLODED VIEW FOR 7550
52VHD POWER FRAME

52 HD POWER FRAME

MODEL	SHAFT (8)	RADIAL BEARING (7)	THRUST BEARING (3)	LOCKNUT (2)	CARTRIDGE (4)	BRG. HOUSING (9)	RETAINER (1)	BRG./GRS. RETAINER (6)	BRG. HSG. OIL SEAL (10)	CARTRIDGE OIL SEAL (5)
V2X2-8	100098	41211	41308-DR	68100	51019	51231	14003	14079	83006	83000
V2X2-10	100098	41211	41308-DR	68100	51019	51231	14003	14079	83006	83000
V3X3-10	100098	41211	41308-DR	68100	51019	51231	14003	14079	83006	83000
V2X3-13	100098	41211	41308-DR	68100	51019	51231	14003	14079	83006	83000
V3X4-13	100098	41211	41308-DR	68100	51019	51231	14003	14079	83006	83000
V4X6-13	100098	41211	41308-DR	68100	51019	51231	14003	14079	83006	83000

MODEL	THROTTLE BUSHING (13)	STEM PLATE (14)	IMPELLER (17)	IMPELLER HOUSING (19)	IMPELLER HSG. GASKET (15)	DRIVE KEY (16)	IMPELLER NUT (18)	IMPELLER WASHER (20)	STEM (11)	SLINGER (12)
V2X2-8	62001-C	21104	25800	27800	61108	71099	68137	68510	17005	58002
V2X2-10	62001-C	21220	25801	27801	61115	71099	68137	68510	17005	58002
V3X3-10	62001-C	21220	25802	27802	61115	71099	68137	68510	17005	58002
V2X3-13	62001-C	21170	25803	27803	61116	71099	68137	68510	17005	58002
V3X4-13	62001-C	21173	25803	27804	61116	71099	68137	68510	17005	58002
V4X6-13	62001-C	21173	25805	27805	61116	71099	68137	68510	17005	58002

*FOR SPECIFIC PART NUMBERS PLEASE PROVIDE SERIAL NUMBER.

53 HD POWER FRAME

MODEL	SHAFT (8)	RADIAL BEARING (7)	THRUST BEARING (3)	LOCKNUT (2)	CARTRIDGE (4)	BRG. HOUSING (9)	RETAINER (1)	BRG./GRS. RETAINER (6)	BRG. HSG. OIL SEAL (10)	CARTRIDGE OIL SEAL (5)
V3X4-13	100025	41316	41312-DR	68100-1	51083	51080	14083	14080	83011	83010
V4X6-13	100025	41316	41312-DR	68100-1	51083	51080	14083	14080	83011	83010
V6X8-15	100025	41316	41312-DR	68100-1	51083	51080	14083	14080	83011	83010

MODEL	THROTTLE BUSHING (13)	STEM PLATE (14)	IMPELLER (17)	IMPELLER HOUSING (19)	IMPELLER HSG. GASKET (15)	DRIVE KEY (16)	IMPELLER NUT (18)	SLINGER (20)	STEM (11)	SLINGER (12)
V3X4-13	62025-C	21173	25803	27804	61116	71099-1	71213	58053	17171	58055
V4X6-13	62025-C	21173	25805	27805	61116	71099-1	71213	58053	17171	58055
V6X8-15	62025-C	21122	25806	27806	61122	71099-1	71213	58053	17171	58055

*FOR SPECIFIC PART NUMBERS PLEASE PROVIDE SERIAL NUMBER.

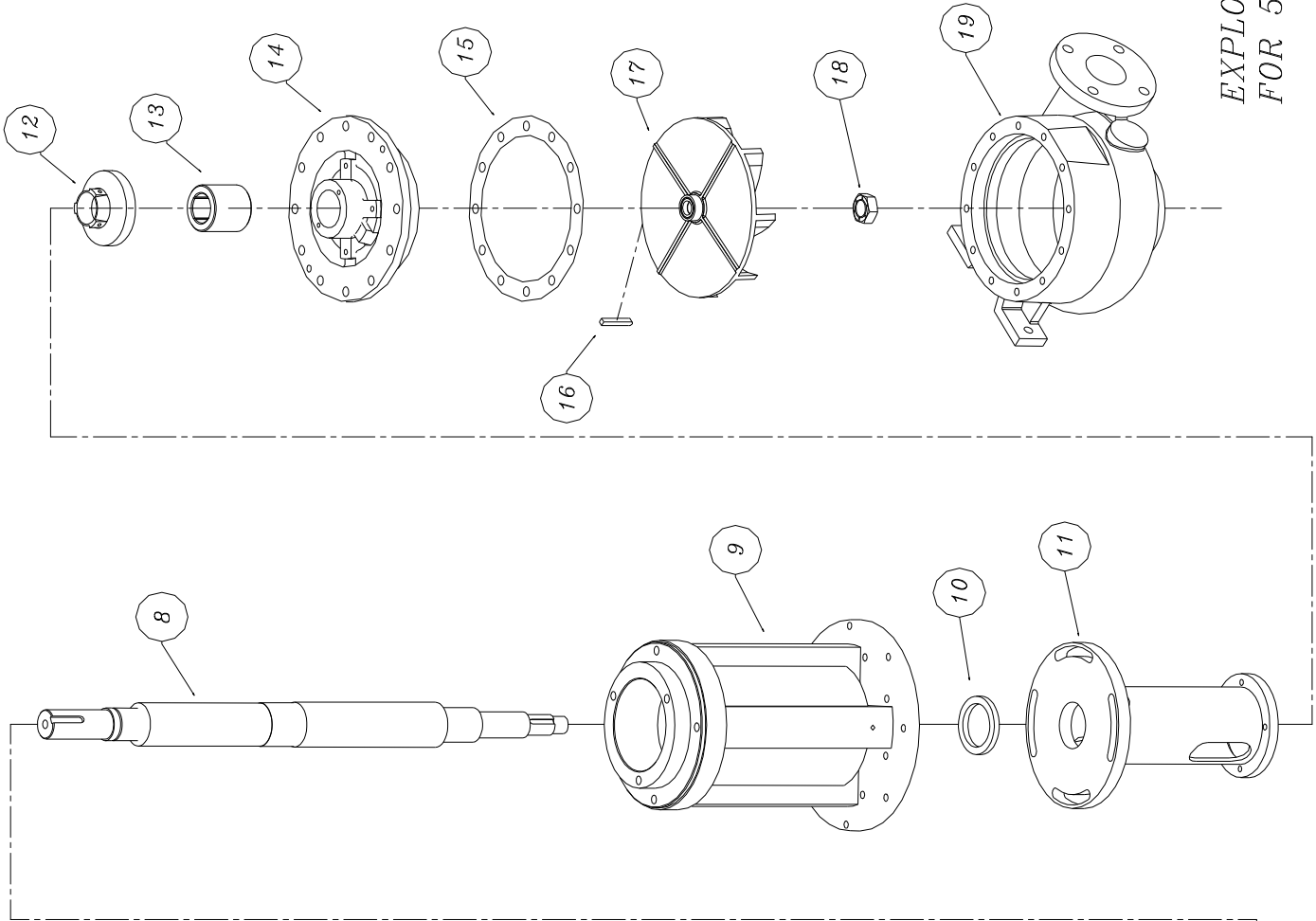
54 HD POWER FRAME

MODEL	SHAFT (8)	RADIAL BEARING (7)	THRUST BEARING (3)	LOCKNUT (2)	CARTRIDGE (4)	BRG. HOUSING (9)	RETAINER (1)	BRG./GRS. RETAINER (6)	BRG. HSG. OIL SEAL (10)	CARTRIDGE OIL SEAL (5)
V3X4-13	100035	41319	41314-DR	68100-2	51082	51081	14082	14081	83013	83012
V4X6-13	100035	41319	41314-DR	68100-2	51082	51081	14082	14081	83013	83012
V6X8-15	100035	41319	41314-DR	68100-2	51082	51081	14082	14081	83013	83012

MODEL	THROTTLE BUSHING (13)	STEM PLATE (14)	IMPELLER (17)	IMPELLER HOUSING (19)	IMPELLER HSG. GASKET (15)	DRIVE KEY (16)	IMPELLER NUT (18)	SLINGER (20)	STEM (11)	SLINGER (12)
V3X4-13	62054-C	21173	25803	27804	61116	71099-1	71213	58071L	17171	58054
V4X6-13	62054-C	21173	25805	27805	61116	71099-1	71213	58071L	17171	58054
V6X8-15	62054-C	21122	25806	27806	61122	71099-1	71213	58071L	17171	58054

*FOR SPECIFIC PART NUMBERS PLEASE PROVIDE SERIAL NUMBER.

PART NO.	DESCRIPTION
1	BEARING RETAINER
2	LOCK NUT
3	THRUST BEARING
4	CARTRIDGE
5	OIL SEAL
6	BEARING & CREASE RETAINER
7	RADIAL BEARING
8	SHAFT
9	BEARING HOUSING
10	OIL SEAL
11	STEM
12	SLINGER
13	THROTTLE BUSHING
14	STEM PLATE
15	GASKET
16	KEY
17	IMPELLER
18	RET NUT
19	IMPELLER HOUSING
20	UPPER SLINGER



EXPLODED VIEW ASSEMBLY
FOR 53 & 54HD PF VORTEX

52 HD POWER FRAME

MODEL	SHAFT (8)	RADIAL BEARING (7)	THRUST BEARING (3)	LOCKNUT (2)	CARTRIDGE (4)	BRG. HOUSING (9)	RETAINER (1)	BRG./GRS. RETAINER (6)	BRG. HSG. OIL SEAL (10)	CARTRIDGE OIL SEAL (5)
V2X2-8	100098	41211	41308-DR	68100	51019	51231	14003	14079	83006	83000
V2X2-10	100098	41211	41308-DR	68100	51019	51231	14003	14079	83006	83000
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V2X3-13	100098	41211	41308-DR	68100	51019	51231	14003	14079	83006	83000
V3X4-13	100098	41211	41308-DR	68100	51019	51231	14003	14079	83006	83000
V4X6-13	100098	41211	41308-DR	68100	51019	51231	14003	14079	83006	83000

MODEL	THROTTLE BUSHING (13)	STEM PLATE (14)	IMPELLER (17)	IMPELLER HOUSING (19)	IMPELLER HSG. GASKET (15)	DRIVE KEY (16)	IMPELLER NUT (18)	IMPELLER WASHER (20)	STEM (11)	SLINGER (12)
V2X2-8	62001-C	21104	25800	27800	61108	71099	68137	68510	17005	58002
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53 HD POWER FRAME

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MODEL	THROTTLE BUSHING (13)	STEM PLATE (14)	IMPELLER (17)	IMPELLER HOUSING (19)	IMPELLER HSG. GASKET (15)	DRIVE KEY (16)	IMPELLER NUT (18)	SLINGER (20)	STEM (11)	SLINGER (12)
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V4X6-13	62025-C	21173	25805	27805	61116	71099-1	71213	58053	17171	58055
V6X8-15	62025-C	21122	25806	27806	61122	71099-1	71213	58053	17171	58055

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54 HD POWER FRAME

MODEL	SHAFT (8)	RADIAL BEARING (7)	THRUST BEARING (3)	LOCKNUT (2)	CARTRIDGE (4)	BRG. HOUSING (9)	RETAINER (1)	BRG./GRS. RETAINER (6)	BRG. HSG. OIL SEAL (10)	CARTRIDGE OIL SEAL (5)
V3X4-13	100035	41319	41314-DR	68100-2	51082	51081	14082	14081	83013	83012
V4X6-13	100035	41319	41314-DR	68100-2	51082	51081	14082	14081	83013	83012
V6X8-15	100035	41319	41314-DR	68100-2	51082	51081	14082	14081	83013	83012

MODEL	THROTTLE BUSHING (13)	STEM PLATE (14)	IMPELLER (17)	IMPELLER HOUSING (19)	IMPELLER HSG. GASKET (15)	DRIVE KEY (16)	IMPELLER NUT (18)	SLINGER (20)	STEM (11)	SLINGER (12)
V3X4-13	62054-C	21173	25803	27804	61116	71099-1	71213	58071L	17171	58054
V4X6-13	62054-C	21173	25805	27805	61116	71099-1	71213	58071L	17171	58054
V6X8-15	62054-C	21122	25806	27806	61122	71099-1	71213	58071L	17171	58054

*FOR SPECIFIC PART NUMBERS PLEASE PROVIDE SERIAL NUMBER.



**GUSHER PUMPS IS A DIVISION
OF RUTHMAN COMPANIES**

RUTHMAN COMPANIES

CORPORATE HEADQUARTERS

1212 STRENG STREET
CINCINNATI, OH. 45233

PHONE: 513-559-1901

FAX: 513-559-0035

WEB: www.ruthmancompanies.com

GUSHER PUMPS OF DRY RIDGE

22 RUTHMAN DRIVE
DRY RIDGE, KY. 41035

PHONE: 859-824-5001

FAX: 859-824-3011

WEB: www.gusher.com

GUSHER PUMPS OF WILLIAMSTOWN

115 INDUSTRIAL DRIVE
WILLIAMSTOWN, KY. 41097

PHONE: 859-824-3100

FAX: 859-824-7248

WEB: www.gusher.com

GUSHER PUMPS OF CALIFORNIA

8226 SALT LAKE AVENUE
CUDAHY, CA 90201

PHONE: 323-773-0847

FAX: 323-773-8462

EMAIL: gusherca@aol.com

GUSHER PUMPS OF NEW CASTLE

403 NORTH NINTH STREET
NEW CASTLE, IN. 47362

PHONE: 765-529-5624

FAX: 765-521-0008

EMAIL: gusherpumpnc@gmail.com

BSM PUMP CORP.

180 FRENCHTOWN ROAD
NORTH KINGSTOWN, RI 02852

PHONE: 401-471-6350

FAX: 401-471-6370

WEB: www.bsmpump.com

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Another Word for Innovation**



It began in 1913, servicing mechanical components of the steamboats on the Ohio River. The company founder, Alois Ruthman, was a man of vision and saw part of the future of the company was in the development of a reliable industrial pump.

In 1924, with the conception of the first vertical ball bearing seal-less centrifugal pump, Ruthman Pump and Engineering furthered the design on a unit with a one piece motor driven shaft. The pump was called "Gusher", giving birth to the trade name Gusher Pumps, and the coining of the term "coolant pump".

Wanting to carry on the tradition of quality and reliability started by his father, Thomas R. Ruthman joined the company in 1949. In the early 1990's Thomas R. Ruthman's son, Thomas G. Ruthman joined the company, continuing this same tradition. Maintaining the reputation of Gusher Pumps by innovation and customer service, the company has grown to service companies worldwide.

NAGLE PUMPS

1249 CENTER AVENUE
CHICAGO HEIGHTS, IL 60411

PHONE: 708-754-2940

FAX: 708-754-2944

WEB: www.naglepumps.com

WAGNER PROCESS EQUIPMENT

3727 METRO DRIVE, SUITE B
STOCKTON, CA 95215

PHONE: 209-931-0100

FAX: 209-931-7910

WEB: www.wagnerprocess.com

GREAT LAKES PUMP & SUPPLY CO.

1075 NAUGHTON

TROY, MI. 48083

PHONE: 248-528-9100

FAX: 248-528-9015

WEB: www.greatlakespump.com

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MICHIGAN, MAIN HEADQUARTERS

23633 PINWOOD

WARREN, MI. 48091

PHONE: 586-757-5711

FAX: 586-758-6996

WEB: www.psi4pumps.com

INDIANA

485 N STATE ROUTE 3431

SOUTH MELLOTT, IN. 47958

PHONE: 765-295-2206

FAX: 765-295-2243

WEB: www.psi4pumps.com

WORLDWIDE:

RUTHMANN PUMPEN

THOMAS-EDISON-STR. 11

52499 BAESWEILER, GERMANY

TEL: 0049 (0) 2401-80 489 0

FAX: 0049 (0) 2401-80 489 20

WEB: www.ruthmannumpen.de

GUSHER PUMPS SHANGHAI

上海格晞尔泵有限公司

913 CHANGLIN RD. SUITE 4012

SHANGHAI, CHINA 200443

上海市长临路913号4012室

PHONE: +86 021 55151993

FAX: +86 021 56422332

WEB: www.gusher.cn

