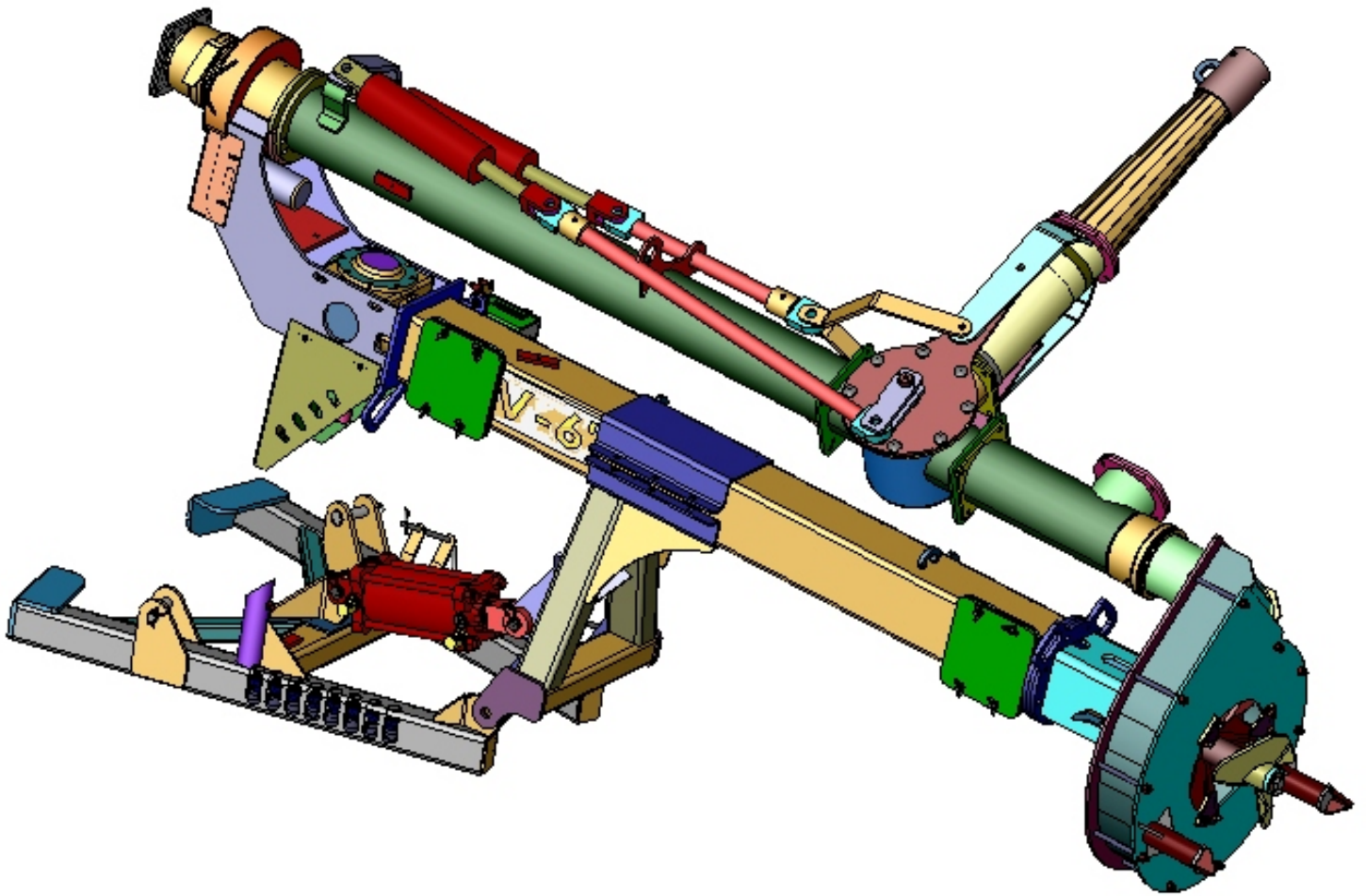


BALZER V6, V8, AND P-PUMPS



OWNERS MANUAL FOR INSTALLATION, OPERATION & MAINTENANCE

County Road 27 Box 458
Mountain Lake, MN 56159
Phone Number: (800) 795-8551
www.balzerinc.com

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This is the safety alert symbol. It is used to alert the operator to an instruction concerning the personal safety and risk factor of this equipment. Always observe and heed these very important instructions to promote a safe operation with good preventive maintenance habits.

This new Balzer Inc. product is designed and manufactured to give years of very dependable service when used for the purpose for which it is intended, and when properly maintained.

NEVER OPERATE THIS EQUIPMENT UNTIL USER FULLY UNDERSTANDS THE COMPLETE CONTENTS OF THIS MANUAL. FOR OWNERS WHO DO NOT OPERATE THIS EQUIPMENT, IT IS THE OWNER'S RESPONSIBILITY THAT THE USER IS PROPERLY INSTRUCTED AND IS FULLY AWARE OF THIS MANUAL'S CONTENTS.

This is important in the safe handling of this equipment and promoting an efficient operation. If there are any questions about areas in this manual, it is important to contact your dealer for clarification.

This machine is warranted as stated on the next page. A registration card is to be filled in by your dealer with your name and address, and promptly returned to the factory. The card provides a ready reference to help you in securing warranty and in answering questions that you may have at some later date.

Operating instructions and parts book are shipped with this machine. If parts of this book are missing or become unreadable, contact your dealer for a new set.

The serial number and identification tag is located at the front of the frame. Please refer to these numbers when parts or warranty communication is necessary.

PLEASE FILL IN THE FOLLOWING INFORMATION FOR YOUR RECORDS:

Date of purchase: _____

Owner's name: _____

Dealer's name: _____

Serial # Identification #: _____

WARRANTY MANUFACTURER

Dealer or Distributor understand and agrees that the Manufacturer extends only the following Warranty to customers. In the event Dealer or Distributor extends any additional warranty (such as by enlarging the scope or period of warranty or undertaking a warranty of merchantability or fitness for any particular purpose) or any other obligation whatsoever, Dealer or Distributor shall: (1) be solely responsible therefore (2) have no recourse against Manufacturer thereof and (3) defend, indemnify and hold Manufacturer harmless against any claim or cause of action whatsoever arising out of, or occasioned by, Dealers or Distributor's extension of said additional warranty or obligation.

CERTIFICATE OF GENERAL EQUIPMENT WARRANTY

Balzer Inc. warrants new Products sold by it to be free from defects in material or workmanship for a period of one (1) year after date of delivery to the first user and subject to the following conditions. Balzer Inc.'s obligation and liability under this Warranty is expressly limited to repairing or replacing at Balzer Inc.'s option, any parts which appear to Balzer Inc. upon inspection to have been defective in material or workmanship. Such parts shall be provided at no cost to user, at the business establishment of the authorized Balzer Inc. dealer or distributor of the Product during regular working hours. This Warranty shall not apply to component parts or accessories of Products not manufactured by Balzer Inc. and which carry the warranty of the manufacturer thereof, or to normal maintenance (such as tune-up) or normal maintenance parts (such as oil filters). Replacement or repair parts installed in this Product covered by this Warranty are warranted only for the remainder of this Warranty as if such parts were original components of said Product. **BALZER INC. MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, AND MAKES NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.**

Balzer Inc.'s obligation under this Warranty shall not include any transportation charges, cost of installation, duty taxes or any other charges whatsoever, or any liability for direct, indirect, incidental or consequential damage or delay. If requested by Balzer Inc. products or parts for which a warranty claim is made are to be returned transportation prepaid to Balzer Inc. An improper use, including operations after discovery of defective or worn parts, operation beyond rated capacity, substitution of parts not approved by Balzer Inc. company or any alteration or repair by others in such manner as in Balzer Inc. company's judgment affects the Products materially and adversely, shall void this Warranty.

“NO EMPLOYEE OR REPRESENTATIVE IS AUTHORIZED TO CHANGE THIS WARRANTY IN ANY WAY OR GRANT ANY OTHER WARRANTY UNLESS SUCH CHANGE IS MADE IN WRITING AND SIGNED BY AN OFFICER OF BALZER INC. AT ITS HOME OFFICE.”

LIABILITY FOR DELAYS

No liabilities shall attach to Manufacturer direct, or indirect, incidental or consequential damages or expenses due to loss, damage, detention of delay in delivery of Products resulting from acts or delays beyond its control.

The following Safety Alert Symbols mean ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED! They stress an attitude of “Heads Up for Safety” and can be found throughout this Operator's Manual and on the machine itself.

BEFORE YOU ATTEMPT TO OPERATE THIS EQUIPMENT, READ AND STUDY THE FOLLOWING SAFETY INFORMATION. IN ADDITION, MAKE SURE THAT EVERY INDIVIDUAL WHO OPERATES OR WORKS WITH THIS EQUIPMENT, WHETHER FAMILY MEMBER OR EMPLOYEE, IS FAMILIAR WITH THESE SAFETY PRECAUTIONS.

Our Company ALWAYS takes operator safety into consideration when designing its machinery, guards and exposed moving parts for operator's protection. However, some areas can NOT be guarded or shielded in order to assure proper operation. In addition to this Operator's Manual, decals on the machine warn of further danger and should be read and observed closely.



DANGER

“DANGER” indicate an imminently hazardous situation which, if not avoided, will result in death or serious injury.



WARNING

“WARNING” indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION

“CAUTION” indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. May also alert against unsafe practices.

READ and follow the instructions on all decals.

REMEMBER! It is the owner's responsibility for communicating information on the safe use and proper maintenance of this machine! This includes providing maintenance of this machine! This includes providing understandable interpretation of these instructions for operators who are not fluent in reading English.

SAFETY SIGNS ARE IMPORTANT

Safety signs or decals provide very important information and instructions designed to alert you to dangers and hazards that can be present during operation of his equipment. However, safety sign instructions must be read, understood and followed to be effective.

REPLACEMENT OF SAFETY SIGNS

Safety signs or decals must be kept clean and readable. If they become unreadable for any reason, they must be replaced with an identical replacement decal. Safety decals must also be replaced if parts be repaired or replaced with new parts that do not already include the necessary safety decals.

APPLICATION OF SAFETY DECALS

Surface preparation is very important for safety decals to properly adhere. Grease, oil and dirt must be removed and the surface must be smooth and dry. Most decals have a split backing which is meant to be removed from the split outward. To apply the decals, follow these procedures:

1. Position the decal in the proper location and hold firmly over the largest portion of the backing.
2. Use one hand to hold the decal in position, with the other hand, carefully roll the loose end over and peel the backing outward. When the backing is removed as described and shown (Fig. 1), with an even and gradual pull, the decal will roll onto the surface smooth and wrinkle free.
3. With the smallest portion of the decal attached, the same procedure can be applied to the other half.
4. When the decal has been attached in place, use a cloth or soft paper towel to burnish the decal onto the cleaned surface. Work gently from the middle outward to avoid creating any wrinkles.

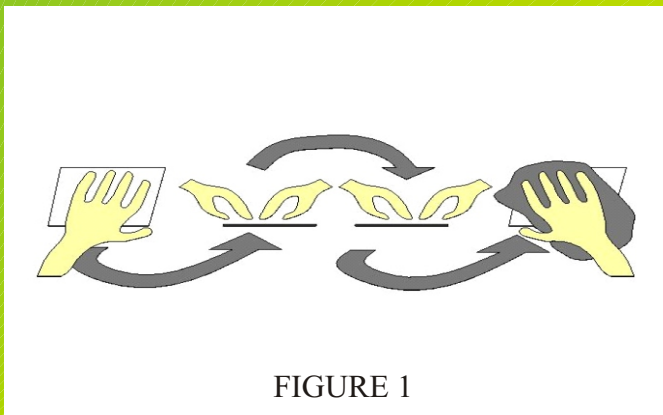
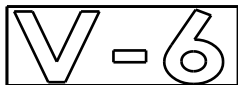
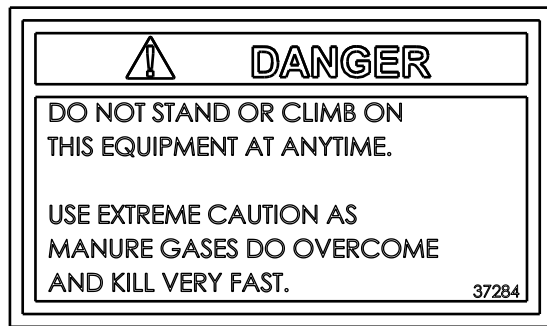
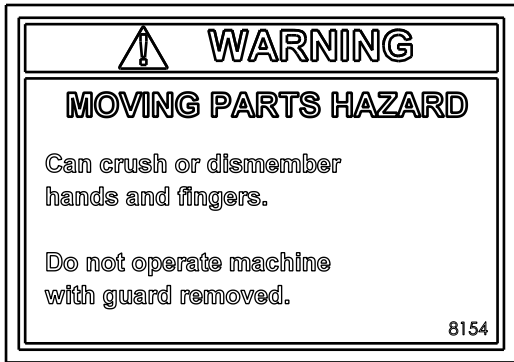
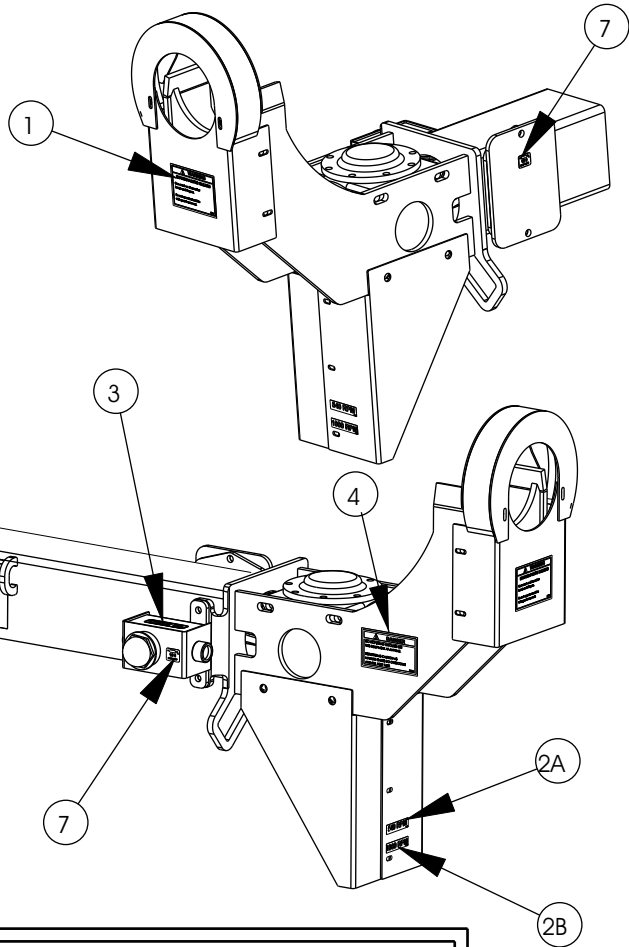


FIGURE 1

REPLACEMENT DECALS

Order replacement decals by part number through your nearest dealer. Part numbers are printed on each decal.

ITEM	QTY	PART #	DESCRIPTION
1	1	37284	DANGER STICKER
2A	1	14255	540 RPM (OPTIONAL)
2B	1	14256	1000 RPM (OPTIONAL)
3	1	7249	CHECK OIL
4	1	8154	WARNING STICKER
5	1	20267	BALZER
6	1	81599	V-6
7	3	15384	ONE-PUMP



Be alert and avoid loose or soft surface conditions that could cause tipping or loss of control. Avoid side hill travel when possible by driving up or down the slope.

ALWAYS check the job site for terrain hazards, obstructions, and bystanders.

DO NOT allow minors or any unqualified personnel to operate or be near the unit unless properly supervised. NEVER allow anyone to ride on the unit at anytime.

NEVER leave the unit running unattended.

ALWAYS wear appropriate personal safety gear as called for by the job or working conditions! NEVER wear loose clothing while working around moving parts.

ALWAYS be aware of pinch point areas on the unit.

Before loading, make sure that the unit does not have any foreign objects or material in it that can cause equipment damage or personal injury.

Safety covers on the equipment protect users from accidental contact with moving parts and help prevent possible injury. Never operate this equipment with these covers missing. Moving parts can cause serious injury or death!

DO NOT smoke while working on hydraulic systems!

NEVER use your hands to search for hydraulic fluid leaks; escaping fluid under pressure can be invisible and can penetrate the skin and cause a serious injury! If any fluid is injected into your skin, see a doctor at once! Injected fluid MUST BE surgically removed by a doctor familiar with this type of injury or gangrene may result!

DO NOT attempt to loosen or disconnect ANY hydraulic Lines, Hoses, or Fittings without first relieving hydraulic circuit pressure. Also, be careful NOT to touch any hydraulic components that have been in recent operation because they can be extremely HOT!

MANDATORY SAFETY SHUTDOWN PROCEDURE!

BEFORE cleaning, adjusting, lubricating or servicing the unit:

1. Remove the ignition key from the power unit engine.
2. Make sure that all movement of the unit has ceased.
3. Disconnect the PTO.

ONLY when you have taken these precautions can you be sure it is safe to proceed. Failure to follow the above procedure, could lead to death or serious bodily injury.

ADDITIONAL SAFETY REMINDERS

USER/OPERATOR SAFETY PRACTICES are included in this Operator's Manual and are intended to promote SAFE OPERATION of the unit.

These guidelines do not preclude the use of good judgment, care, and common sense as may be indicated by the particular job site work conditions.

It is essential that operators be physically and mentally free of mind altering drugs and chemicals and thoroughly trained in the safe operation of the unit. Such training should be presented completely to all new operators and not condensed for those claiming previous experience.

Some illustrations used in this manual may show Doors, Guards, and Shields open or removed for illustration purposes ONLY. BE SURE that all Doors, Guards, and Shields are in their proper operating positions BEFORE operating the unit. NEVER operate this unit with any guards or shields not in place. Replace any missing or damaged ones.

Keep hands and feet away from all moving parts.

The operator MUST know the capabilities and work applications for the machine, and operate it at speeds slow enough to insure complete control at all times. When working on uneven ground or near the edge of roadbeds, there is no substitute for good judgment and only operators with sufficient experience should attempt such work.

NEVER assume that everybody is as safety conscious as you are.

OPERATING AND MAINTENANCE

Assembly Instructions:

Your new Balzer Pump is shipped from the factory partially assembled. Remove all parts from the boxes and bundles to check them against the packing list provided. If any parts are missing or damaged, refer to the parts ordering page for instructions on how to report these findings.

Refer to the parts list and illustrations in the manual for part identification and assembly. Use only hardware specified from the parts list to insure proper and lasting operation.

Site-Preparation:

Location of the pump is generally determined by the location of the intake and discharge of the material to be pumped. Improper site conditions can adversely affect the operation and maintenance of your pump.

The area around the pump should be kept clear and as level as possible to make the pumping of the material as convenient as possible.

Pre-Operation Check List:

Before placing your pump into the pumping area, you should perform a check of the following items:

1. Inspect for missing or loose bolts.
2. Check all lubrication areas.
3. Check the universal joints in the PTO.
4. Check the condition of all hydraulic hoses and fittings, replace those that are damaged.
5. Check the agitation nozzles movement.
6. Check the condition of the impeller and housing for objects that might obstruct rotation.
7. Adjust lowering pole, stabilizer, and lifting handle to correct setting, depending on the depth of your particular pit.

Pump Set Up:

Connect the PTO shaft and all hydraulic lines to the tractor. Check all lines and connectors, tighten all loose fittings.

With the tractor's throttle at idle, familiarize yourself with the hydraulic controls for agitation gun control; both up and down, left and right, undercarriage adjustments for raise and lower and the flapper valve for directing slurry for agitation or loading.



If it is necessary to purge the hydraulic lines of air, cycling of the cylinders several times will clear the lines. Make sure you know the location of the flapper valve to avoid dumping slurry on the ground, etc. before engaging PTO!

Next, position the pump into the area of the pit that has the most liquid. Direct the gun nozzle towards the pump to set up a flowing motion of the slurry.

Operating Procedures:

Operation of the pump begins by slowly increasing the PTO'S RPM up to the designate rate.

Agitate until the area around the pump becomes liquid, and then readjust the gun nozzle to spray the liquid over the top crust to saturate until it breaks into chunks and either sinks to the bottom or floats towards the pump and becomes liquid through the agitation process.

Agitation is complete when there are no solids floating and density of slurry is consistent.

Reduce the PTO speed to idle, position the tanker for filling under load stand or other device. Slowly increase the PTO speed to 60% of rating for filling the tanker. When tanker is full reduce PTO speed and close filler valve.

When operation of the pump is complete, remove from the pit area and wash complete to insure that all product is removed from the unit. A light coating of oil is recommended to protect against corrosion.

If an object should become lodged in the pump, first try manually turning the pump backwards. If the pump remains plugged, it will be necessary to remove the pump from the pit and physically remove the object.

Transporting:

When moving the pump, the hydraulic lines and PTO shaft that are connected to the tractor should be disconnected and placed in the transport position to avoid damage that could occur during transportation of the pump.



Lubrication:

The operation and life time of the components of this pump are dependant on regular and proper lubrication. The frequency of lubrication will depend on conditions of use. Severe or unusual conditions may determine actual service needs.

Replace any broken or missing grease fittings and always clean the fittings before greasing.

Additional lubrication is as follows:

- Grease PTO every 8 hours of running time.
- Change gear box oil every season, Spring & Fall to prevent contamination.
- Other areas to be lubricated daily.

Note: A small amount of moisture in the gear box is common due to condensation when the warm gear box is cooled. If this occurs, change the gearbox oil and continue to inspect it frequently. Regular changing of grease will minimize chance for total failure and the need for repair.

IMPORTANT: When not operating the pump, (overnight or during period of inactivity exceeding one hour), remove or raise the pump out of the lagoon.

Storage:

Always remove the pump from the pit when not in use. Wash the unit off, especially around the impeller housing area. A light coat of oil is recommended to protect against corrosion.



IT IS THE POLICY OF BALZER COMPANY TO CONSTANTLY IMPROVE ITS PRODUCT WHENEVER IT IS PRACTICAL TO DO SO. THEREFORE, BALZER INC. RESERVES THE RIGHT TO REDESIGN OR CHANGE ITS EQUIPMENT OR COMPONENT PARTS THEREOF WITHOUT INCURRING THE OBLIGATION TO INSTALL OR FURNISH SUCH CHANGES ON EQUIPMENT PREVIOUSLY DELIVERED.

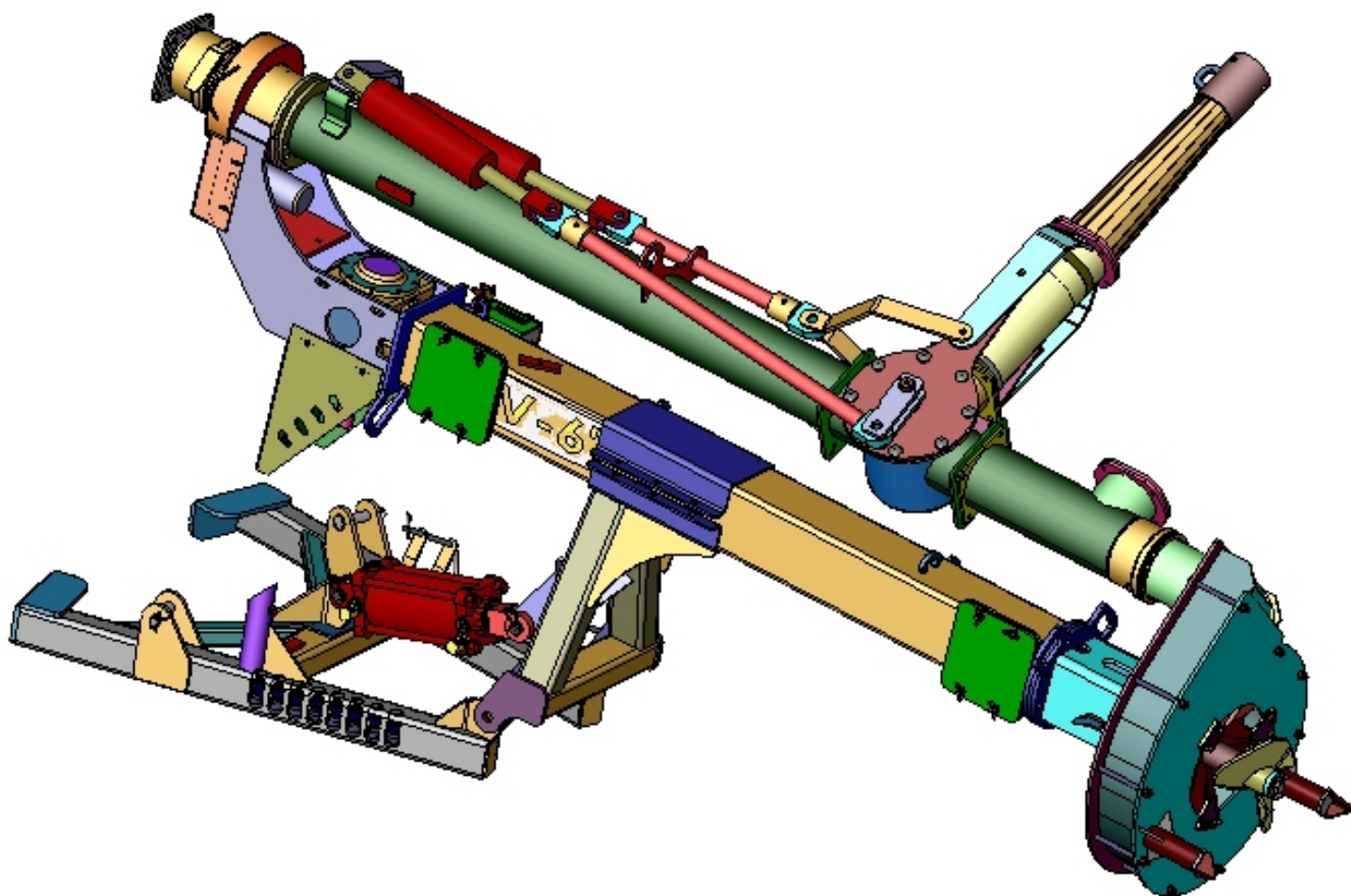
INSTRUCTIONS FOR ORDERING PARTS

1. To enable our customer service department to provide you with the correct replacement parts promptly and accurately, follow the ordering instructions as listed below.
2. Identify your equipment by serial number whenever possible.
3. Use part numbers and descriptions from the illustration drawings furnished to assist in identifying the needed parts.
4. Owners, order all parts through your local dealer.
5. Dealers must indicate company name, shipping point and mailing address for notification if different from shipping point.
6. State whether freight, express, parcel or other handling is desired.

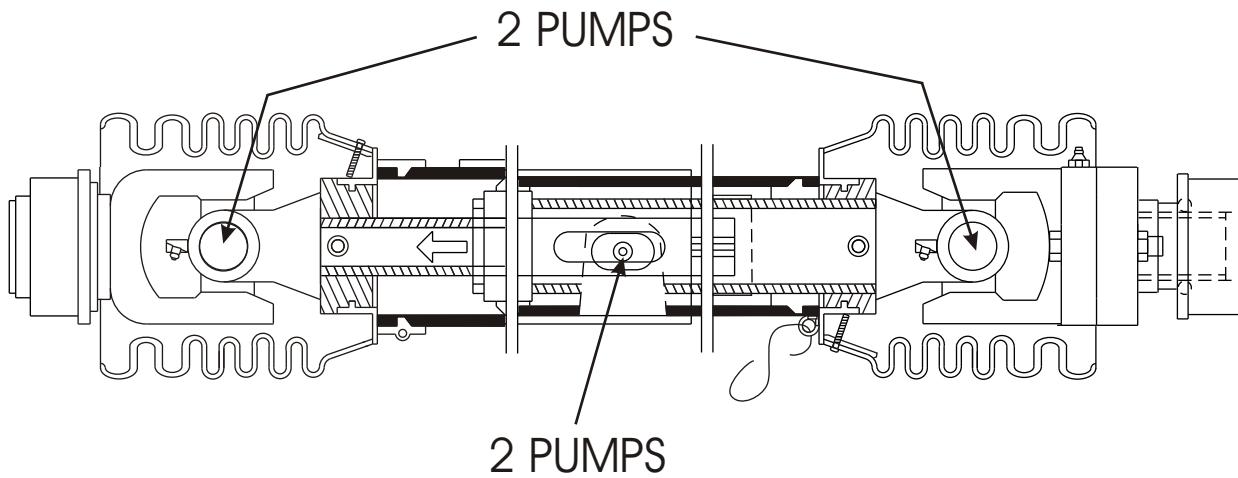
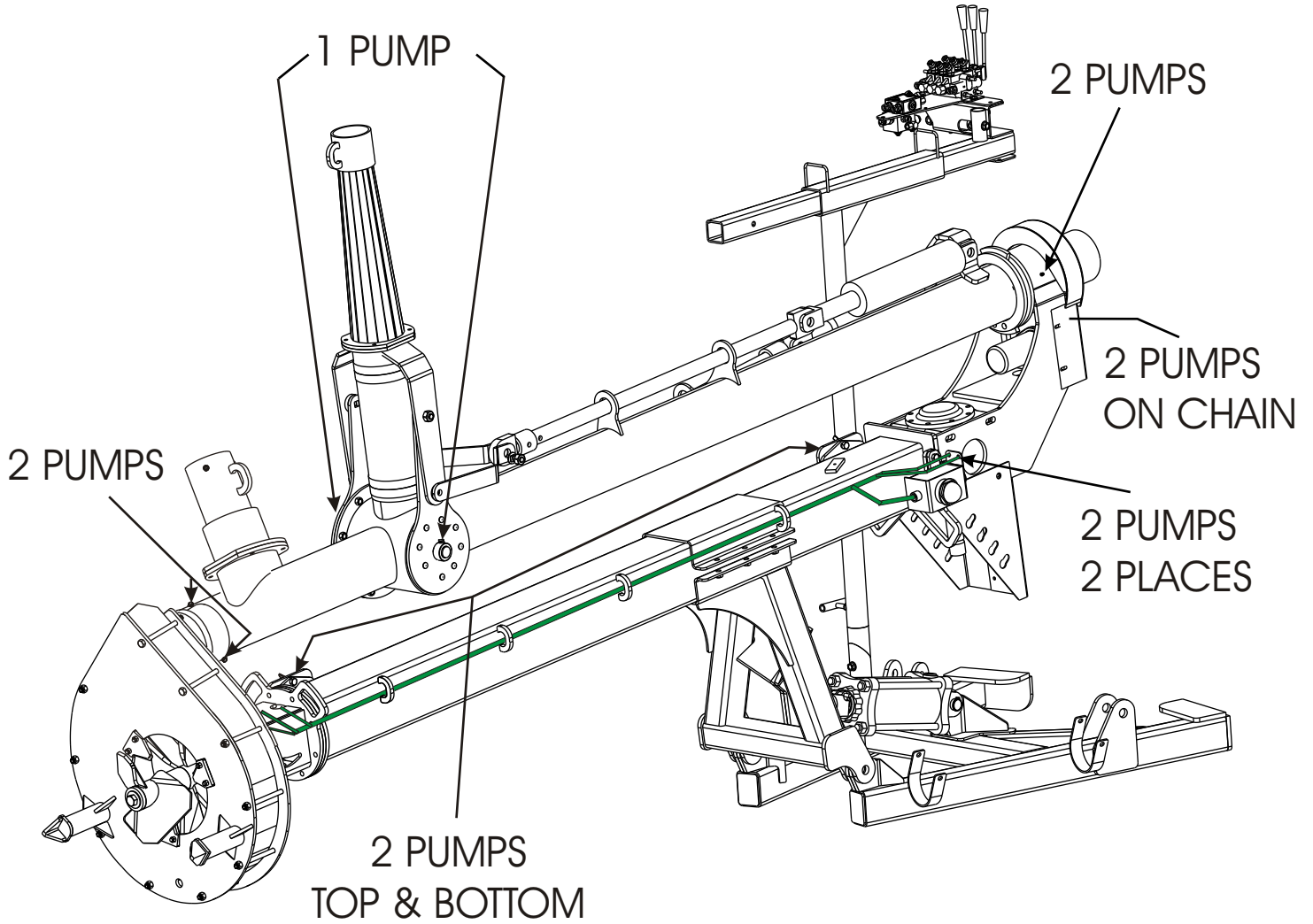
INSTRUCTIONS FOR RETURNING PARTS FOR ADJUSTMENT

1. Dealers should inspect all parts when received. Shortages or damage should be noted by the carrier agent at the time the parts are accepted. Shipper's responsibility ceases upon delivery of shipment to customer in good order. Claims for damage, loss or malfunction are to be reported within thirty (30) days for warranty consideration.
2. All returned parts must have return authorization, a copy of the original packing list and transportation prepaid.

BALZER V6 & V8 PUMPS



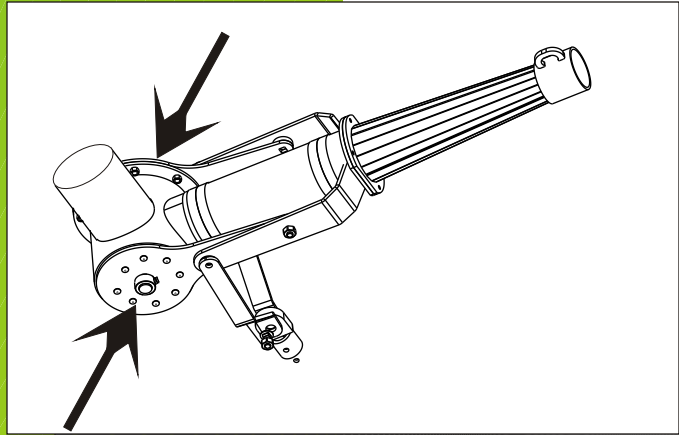
GREASE POINTS FOR V6 & V8



GREASE POINTS FOR V6 & V8

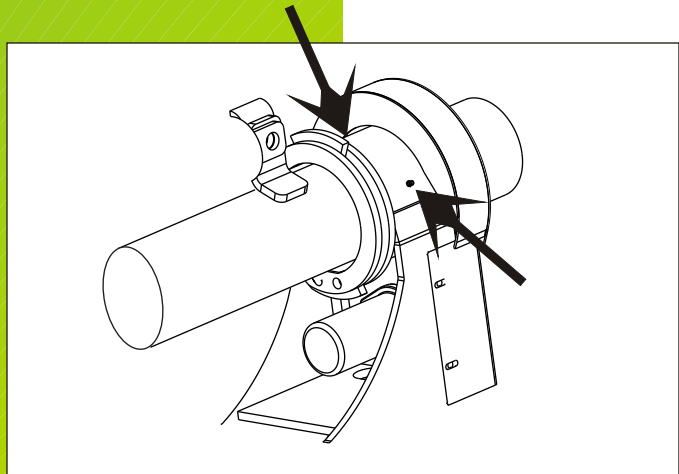
VALVE SHAFT:

One grease point is located on either side of the base of the gun. These points should be greased daily with one pumps of grease.



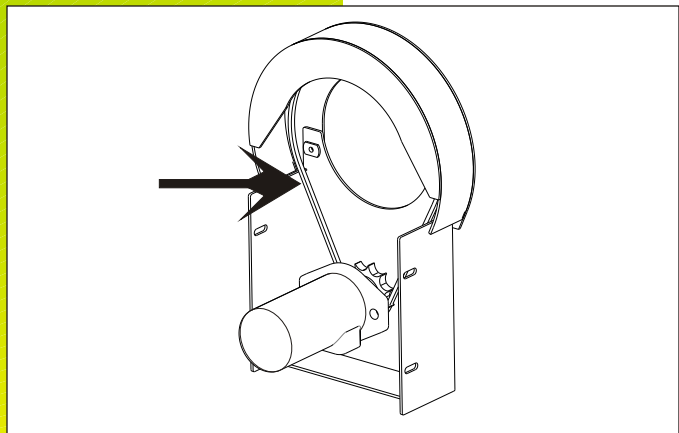
UPPER SWIVEL:

Two grease points are located on the main pipe near the motor. These points should be greased daily with one pump of grease.



MOTOR CHAIN:

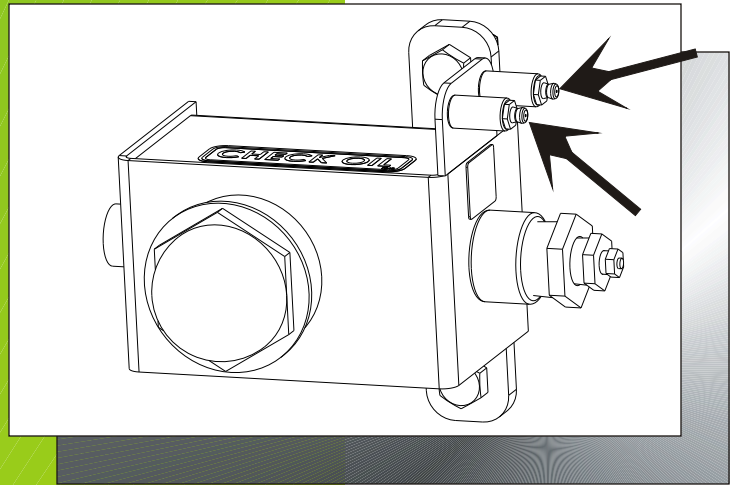
Grease motor chain weekly.



GREASE POINTS FOR V6 & V8

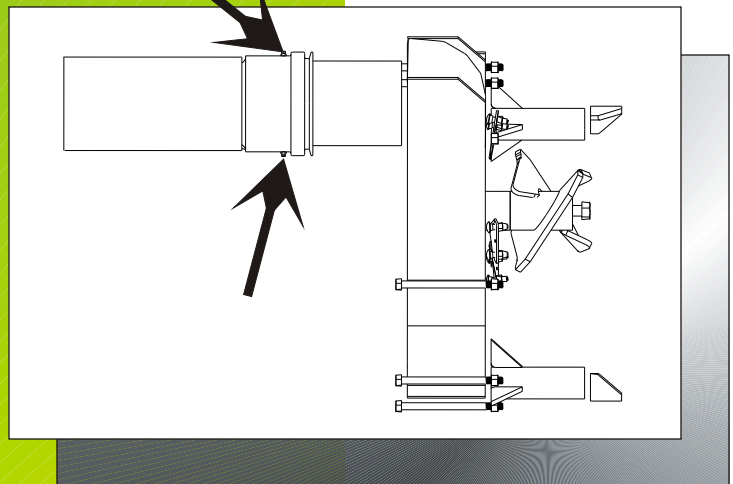
BEARING CHAMBER LUBRICATION

The grease points lubrication are located near the gearbox. These points should be greased every day with two pumps of grease.



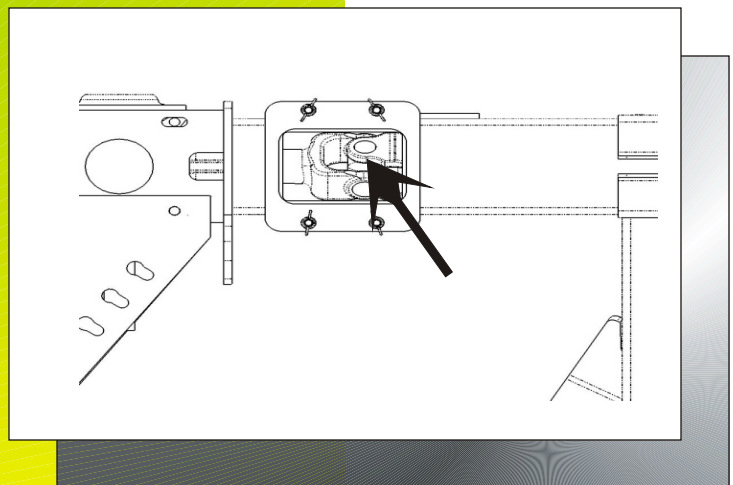
BASE SWIVEL:

Two points are located near the impeller. Grease both points with one pump daily.



DRIVE LINE CROSSES:

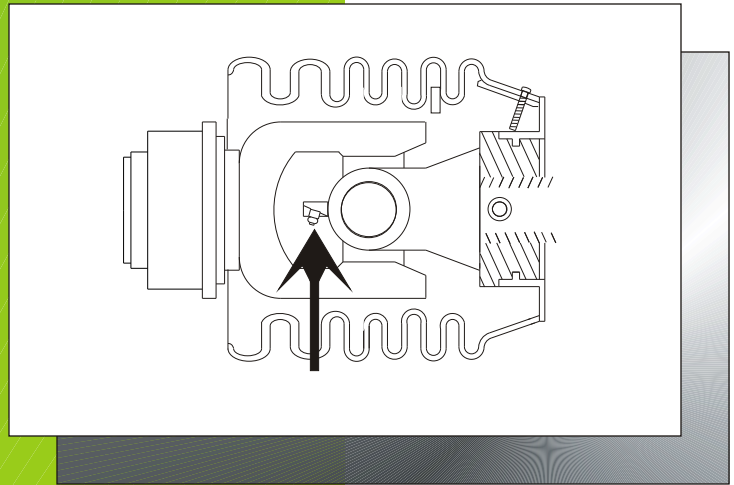
Remove the exterior covers to expose the drive line. Grease the two crosses with two pumps daily.



GREASE POINTS FOR V6 & V8

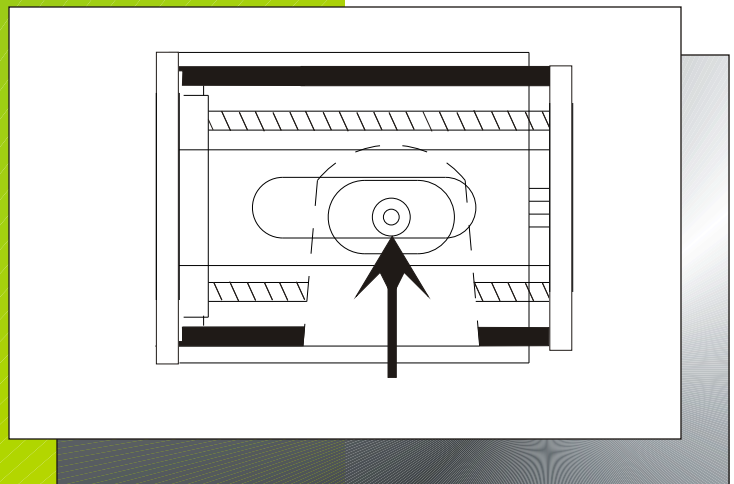
PTO CROSS:

Grease PTO with one pump of grease daily.



PTO TUBE:

Grease PTO tube with three pumps daily.



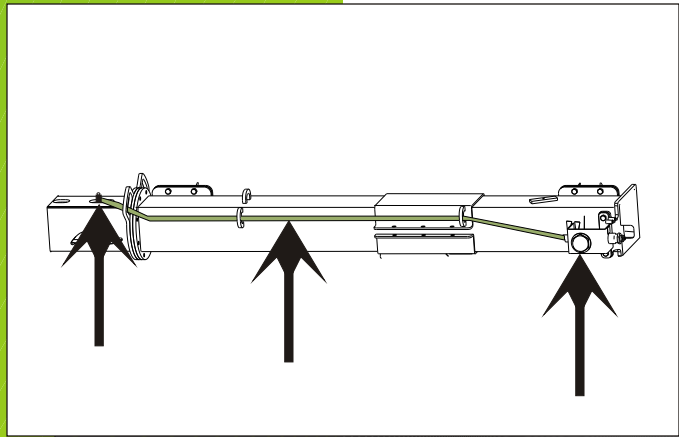
NOTE: AMOUNT OF GREASE IS FOR USE UNDER NORMAL WORKING CONDITIONS. ACTUAL GREASE NEEDS MAY BE DIFFERENT DEPENDING ON THE WORK CONDITIONS.

OIL INSTRUCTIONS

BEARING CHAMBER:

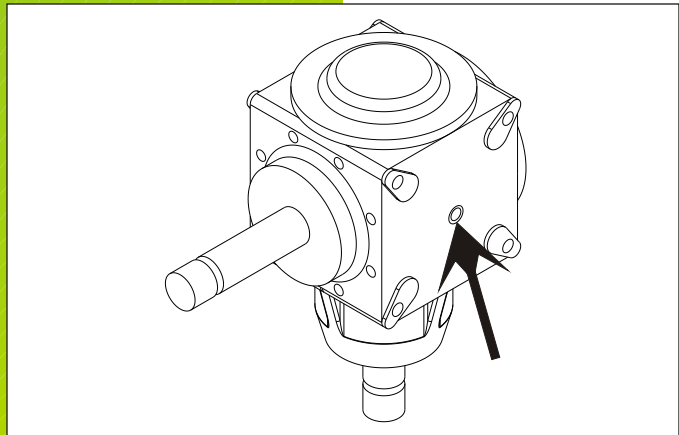
Check oil at oil reservoir. Make sure that reservoir is 50% full. Add 90W oil when pump is in vertical position.

The reservoir sends oil down a line to the bearing chamber.



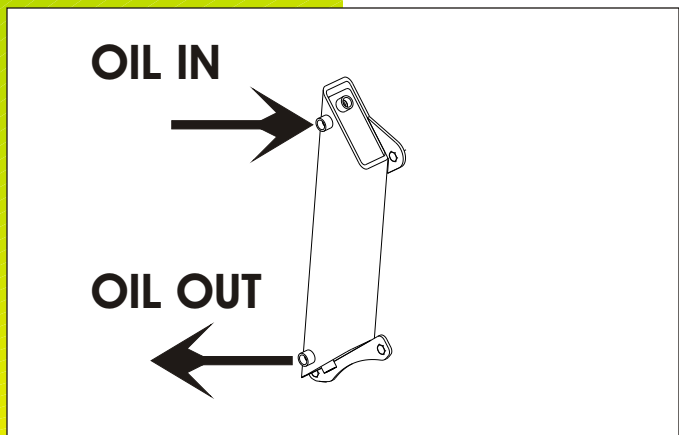
GEAR BOX:

Check oil. Add 90W oil until 50% full.

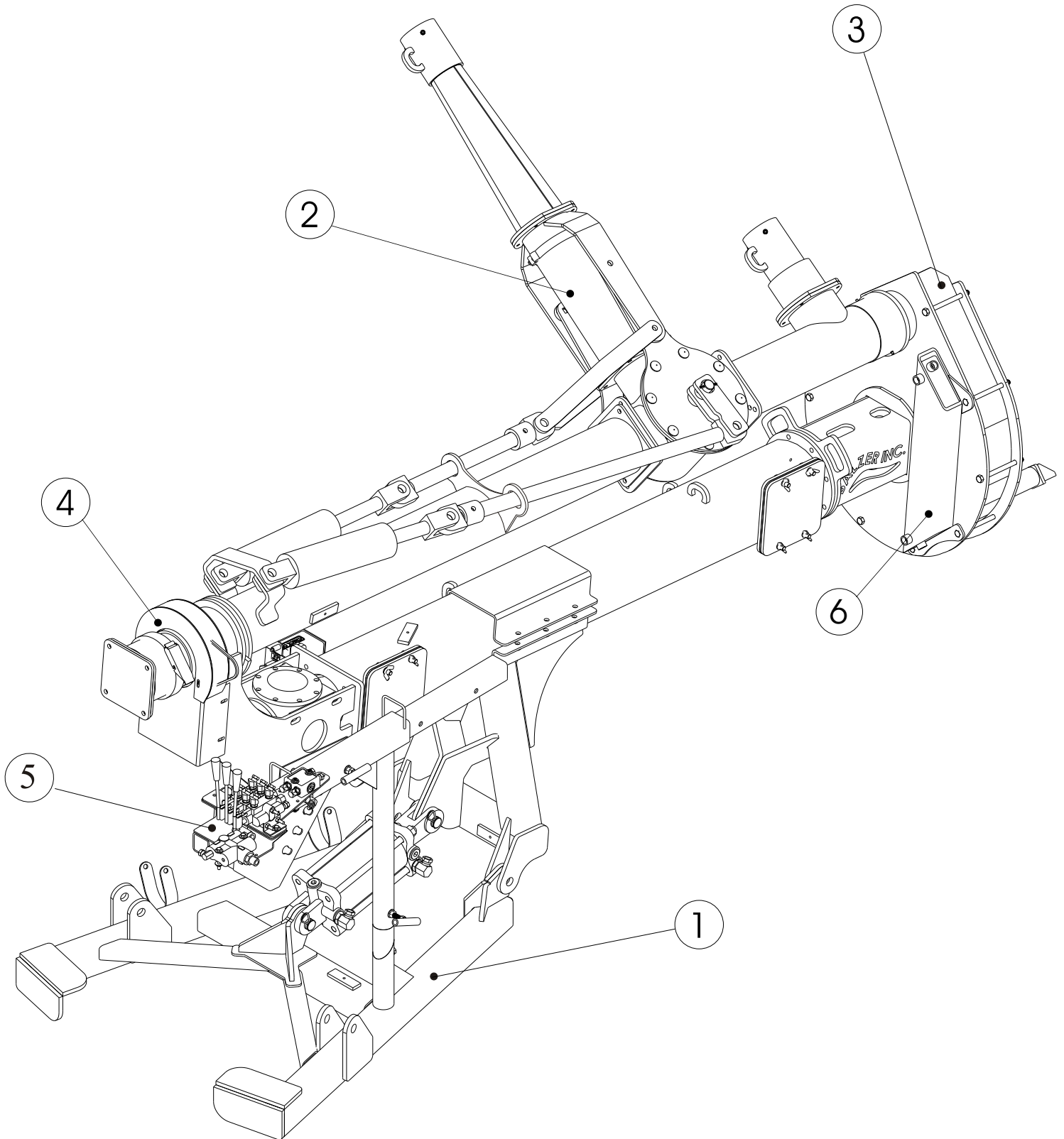


OIL COOLING SYSTEM (OPTIONAL)

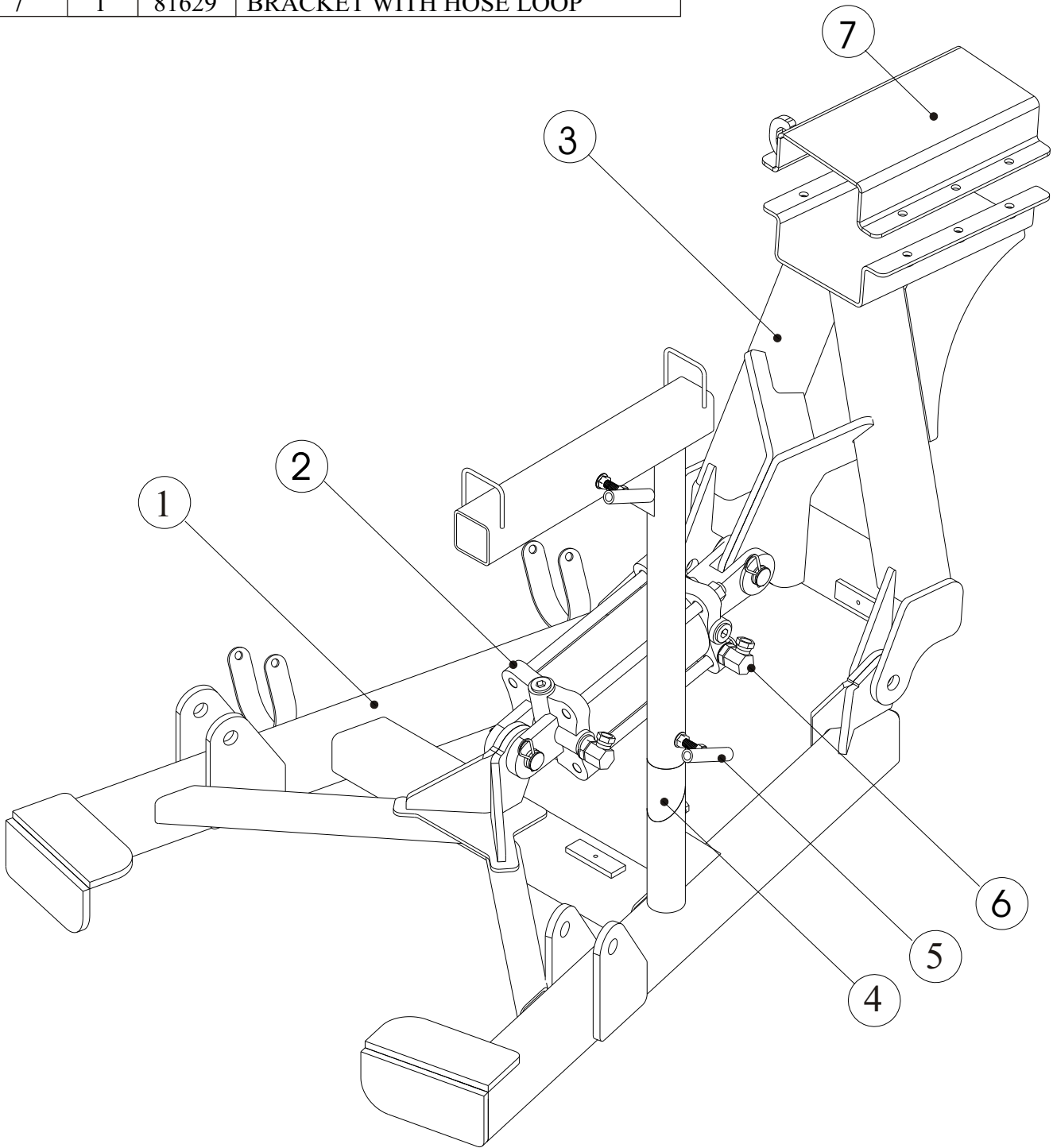
If the pump is equipped with an oil cooling system, check oil at the gearbox in a vertical position.



ITEM #	PAGE	DESCRIPTION
1	20	FRAME
2	21	3 WAY VALVE & GUN
3	22	IMPELLER
4	24	GEARBOX AND MOTOR
5	42	OIL COOLING SYSTEM
6	44	HYDRAULIC CONTROLS



ITEM #	QTY	PART #	DESCRIPTION
1	1	81375	PUMP V6 & V8 FRAME "W"
2	1	81530	HYD. CYLINDER 5 x8"
3	1	81365	PUMP V6 & V8 FRAME "A"
4	1	81572	PEDISTAL MOUNT
5	2	81632	TIGHTENER ½ - 13 TELESCOPING
6	2	81628	90 DEG SWIVEL FOR 5 x8" CYL
7	1	81629	BRACKET WITH HOSE LOOP



ITEM #	QTY	PART #	DESCRIPTION
1	1	22450	RING LOCK CLAMP 6" CROWN
2	1	81553	SPROCKET SHIELD
3	1	20808	HYDRAULIC CYLINDER 2 x12
4	2	81456	NOZZLE LEVER
5	1.25	33236	6" FLEX TEX HOSE
6	2	16009	HOSE CLAMP 149-161mm
7	1	81480	4" DETACHABLE END NOZZLE (LONG)
8	1	82185	4" DETACHABLE END NOZZLE (SHORT)
9	1	83725	V8 THREE WAY VALVE
10	1	16240	HYDRAULIC CYLINDER 2 x8
11	1	81533	STAINLESS STEEL ROLLER CHAIN (#60)
12	1	81550	MOTOR/SPROCKET SHIELD
13	1	81647	CAP
14	1	19132	7.5" SQUARE COVER (4 BOLT)
15	1	81415	VALVE ARM
16	1	81430	VALVE DOOR
17	4	81524	O RING
18	1	81420	VALVE HANDLE

LUG WELDMENT FOR VALVE

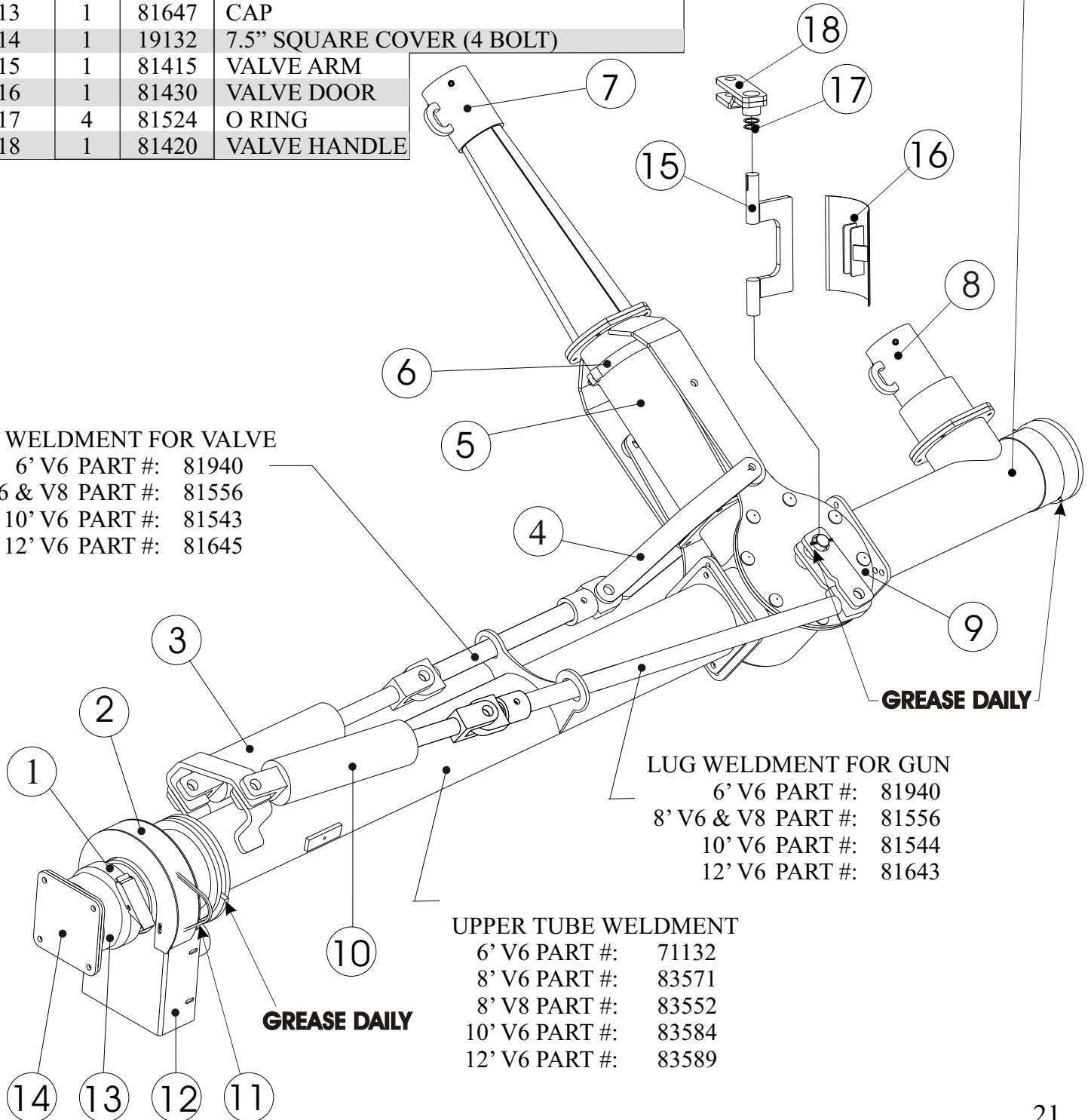
- 6' V6 PART #: 81940
- 8' V6 & V8 PART #: 81556
- 10' V6 PART #: 81543
- 12' V6 PART #: 81645

LOWER TUBE WELDMENT

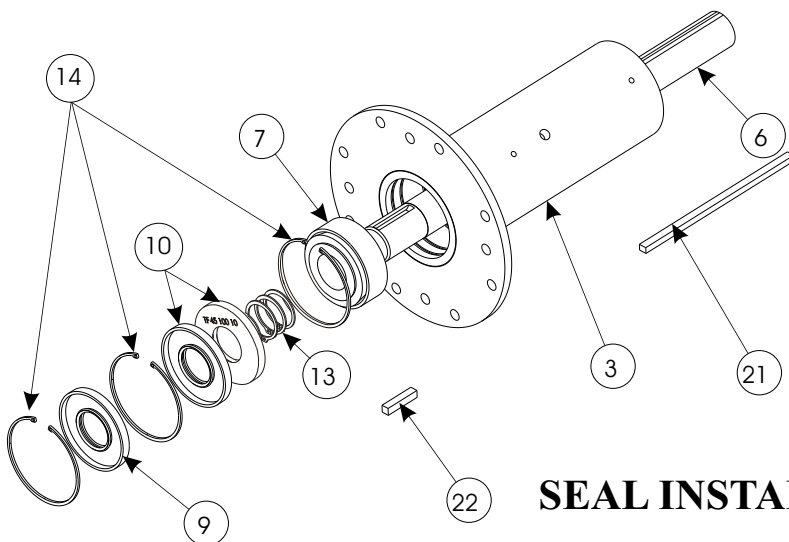
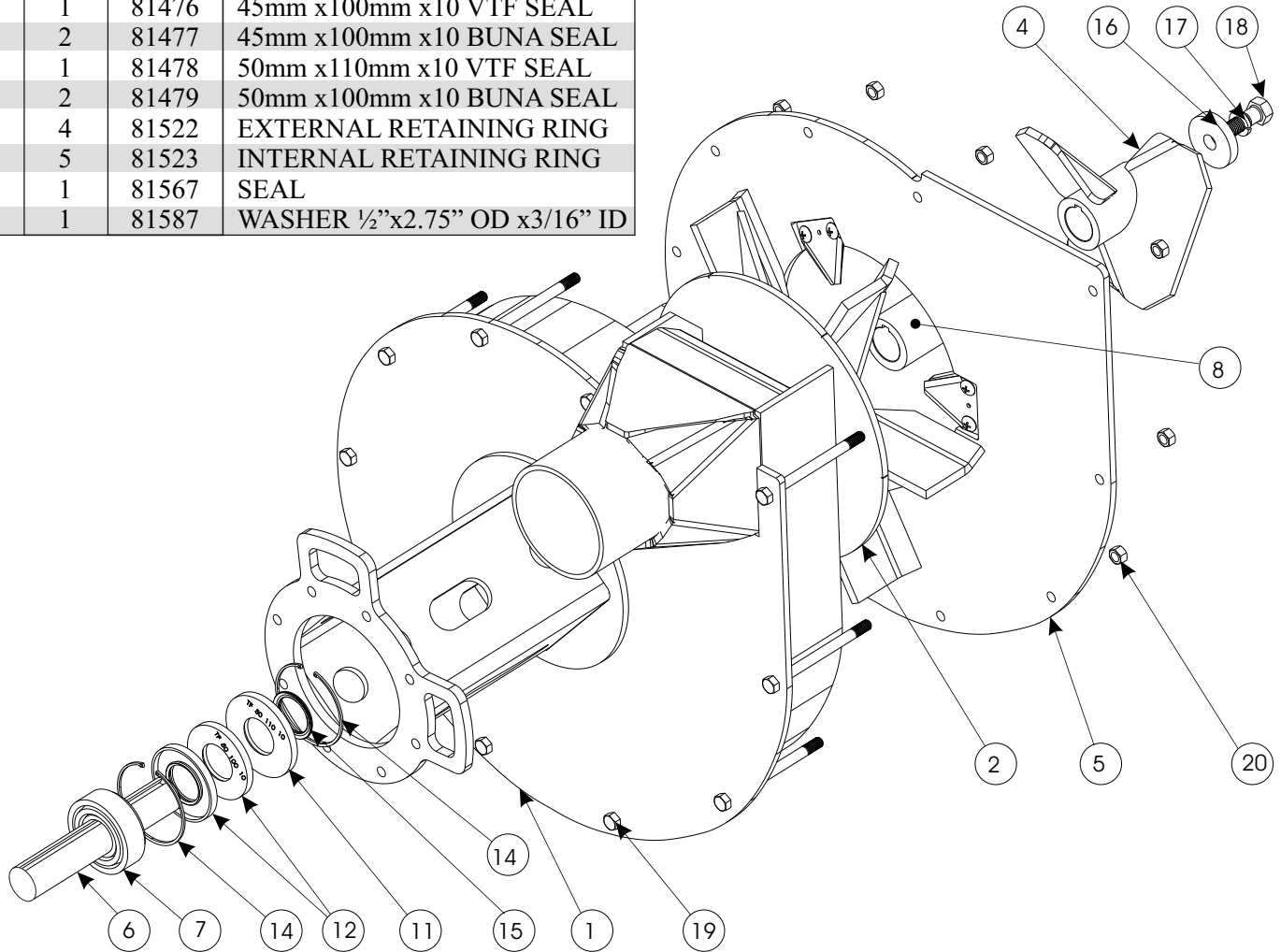
- V6 PART #: 83535
- V8 PART #: 83554

UPPER TUBE WELDMENT

- 6' V6 PART #: 71132
- 8' V6 PART #: 83571
- 8' V8 PART #: 83552
- 10' V6 PART #: 83584
- 12' V6 PART #: 83589

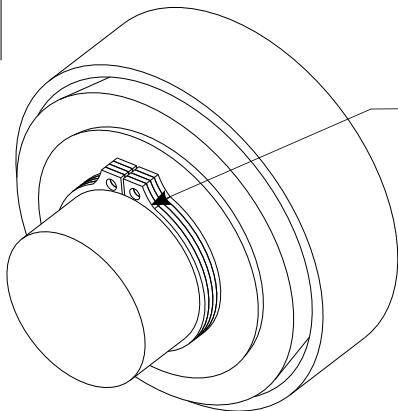
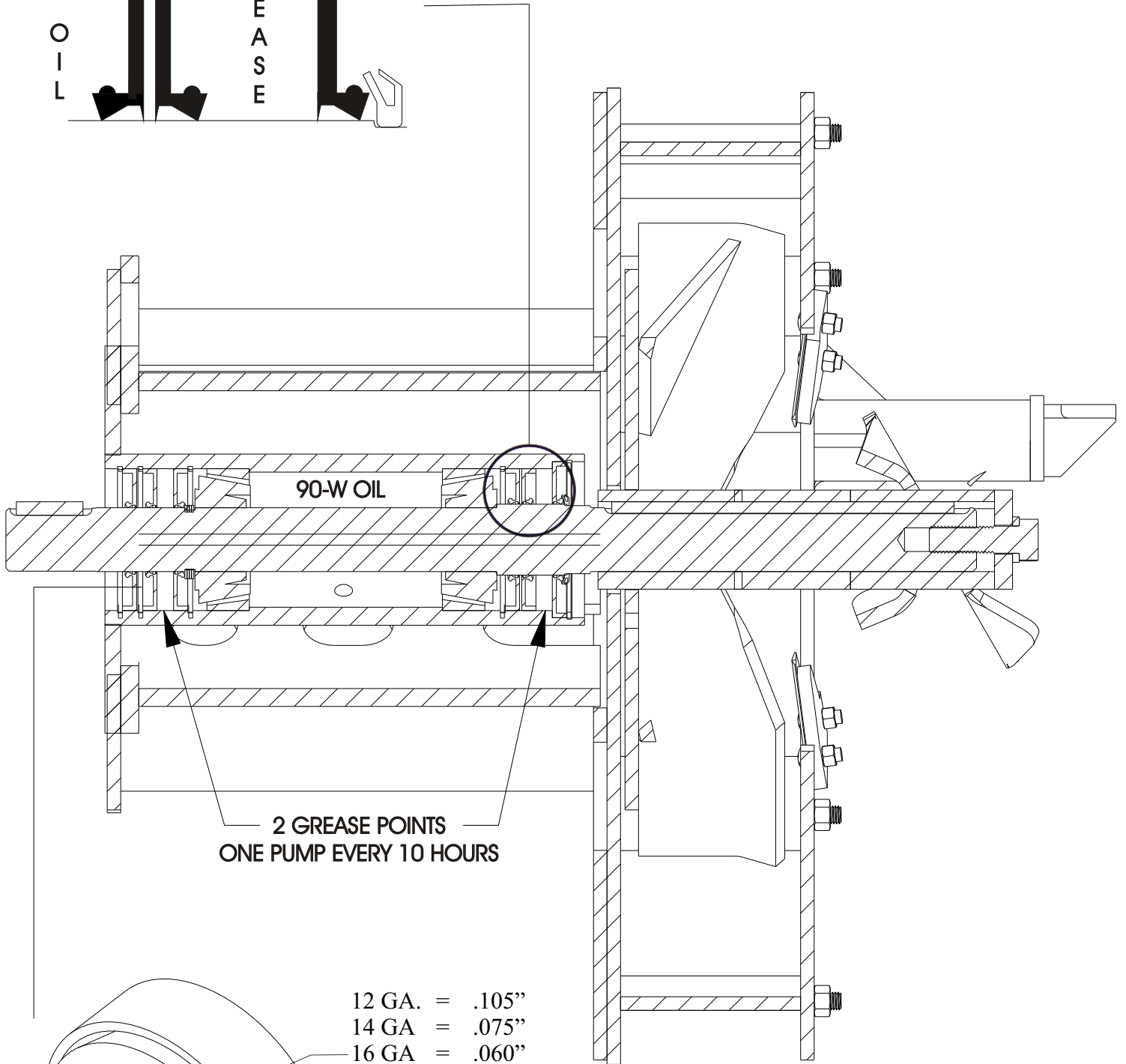


ITEM #	QTY	PART #	DESCRIPTION	ITEM #	QTY	PART #	DESCRIPTION
1	1	81380	IMPELLER HOUSING	17	1	1641	LOCKWASHER 3/4" SPRING ZN
2	1	81360	IMPELLER SHAFT	18	1	1329	BOLT .75 x2.75 HEX HEAD
3	1	81408	SHAFT HOUSING	19	10	1265	BOLT .5 x6.5 HEX HEAD
4	1	81370	INTAKE CHARGER PROP	20	10	2539	NUT .5 TOP LOCK
5	1	81445	COVER PLATE	21	1	81592	KEY 10mm x8mm x9.5"
6	1	81399	IMPELLER SHAFT	22	1	81591	3/8" x3/8" x1.85" KEY
7	2	81457	BEARING 45mm ID 100mm OD				
8	1	81491	IMPELLER HUB SPACER				
9	1	81476	45mm x100mm x10 VTF SEAL				
10	2	81477	45mm x100mm x10 BUNA SEAL				
11	1	81478	50mm x110mm x10 VTF SEAL				
12	2	81479	50mm x100mm x10 BUNA SEAL				
13	4	81522	EXTERNAL RETAINING RING				
14	5	81523	INTERNAL RETAINING RING				
15	1	81567	SEAL				
16	1	81587	WASHER 1/2"x2.75" OD x3/16" ID				



SEAL INSTALLATIONS AND DIRECTIONS

SEALS



- 12 GA. = .105"
- 14 GA = .075"
- 16 GA = .060"
- 1 SNAP RING = .062"
- 3 SNAP RINGS = .186"
- 3 SNAP RINGS 12 GA = .291"
- 3 SNAP RINGS 14 GA = .261"
- 3 SNAP RINGS 16 GA = .246"
- 4 SNAP RINGS = .248"

THE SNAP RINGS HOLD THE BEARINGS.

USE SNAP RINGS AND SPACERS UNTIL SHAFT END PLAY IS LESS THAN .005"

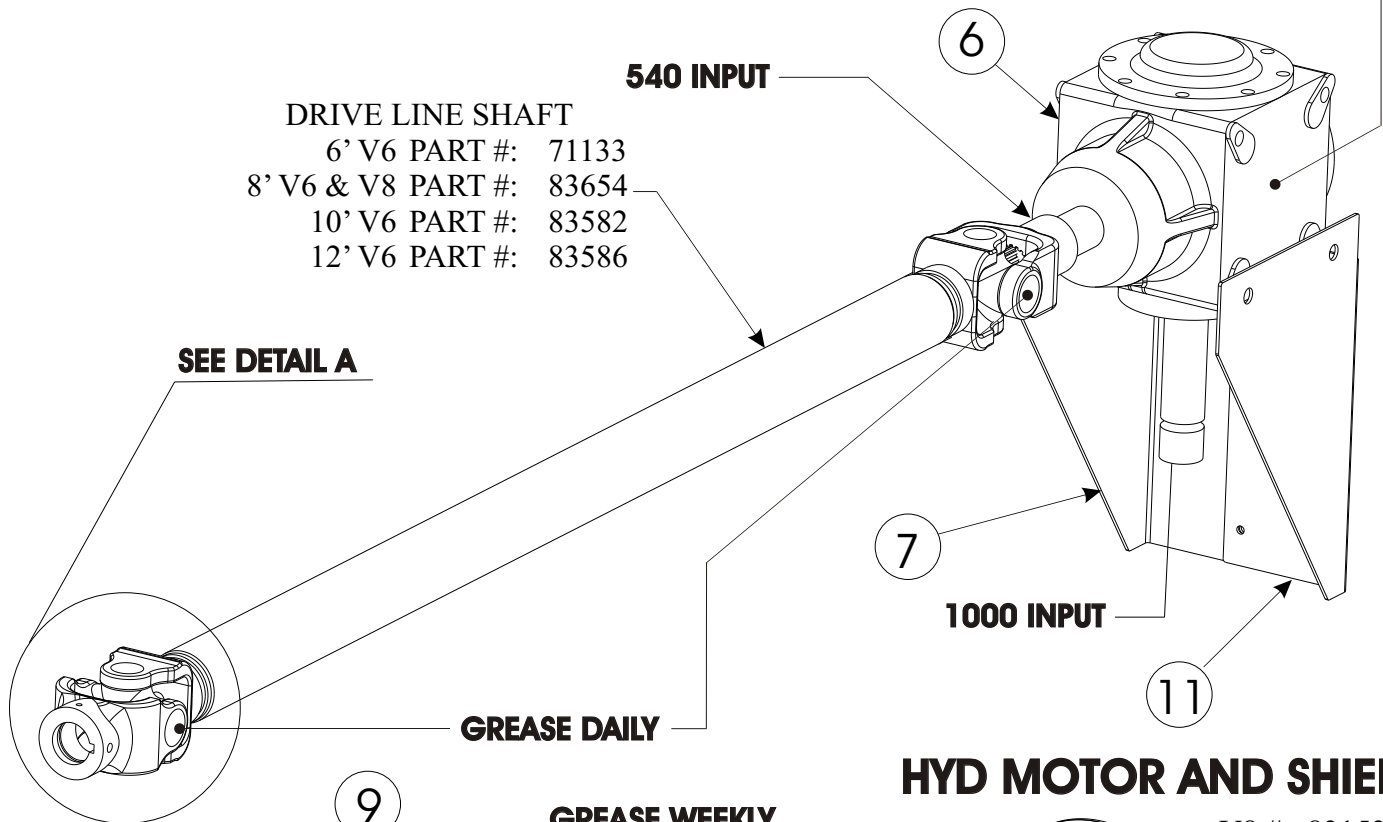
SEAL INSTALLATIONS AND DIRECTIONS

ITEM #	QTY	PART #	DESCRIPTION
1	1	31757*	HYDRAULIC MOTOR 20 CU IN
2	1	81500	SPROCKET 3" OD 1" ID
3	1	81533*	#60 STAINLESS STEEL ROLLER CHAIN
4	1	81553*	SPROCKET SHIELD
5	1	81550*	MOTOR/SPROCKET SHIELD
6	1	81534	GEAR BOX RATIO 1:135
7	1	81555	RIGHT SIDE SHIELD (GEAR BOX)
8	1	15372	CROSS AND BEARING KIT
9	1	81521	SAFETY SLIDE LOCK ASM -44 SERIES
10	1	81520A	44 SERIES IMPLEMENT YOKE
11	1	81597	SHIELD LEFT SIDE (GEAR BOX)

*INDICATES PART FOR V6 ONLY. V8 PARTS ARE NOTED.

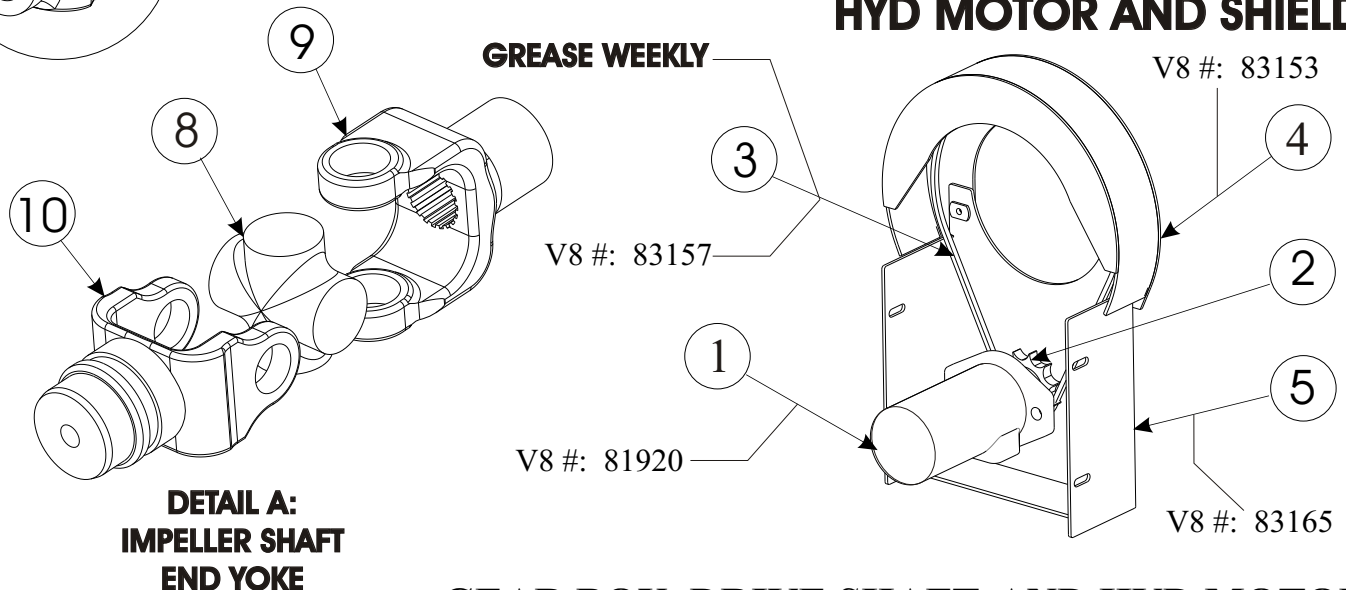
GEAR BOX WITH MOUNT SET UP FOR 1000 INPUT

**CHECK OIL IN GEAR BOX
ADD 90w OIL UNTIL 50% FULL**



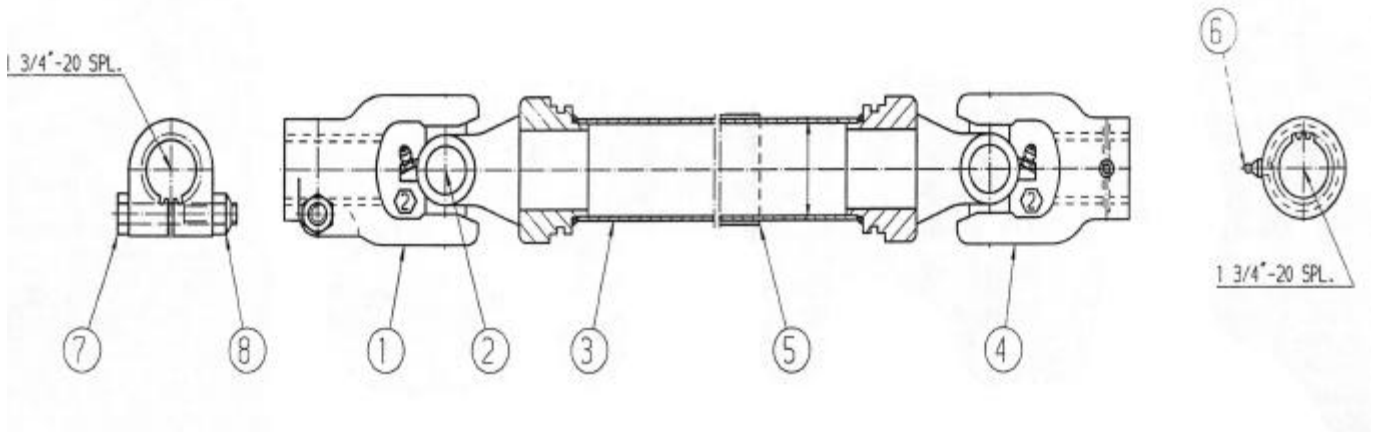
DRIVE LINE SHAFT
 6' V6 PART #: 71133
 8' V6 & V8 PART #: 83654
 10' V6 PART #: 83582
 12' V6 PART #: 83586

HYD MOTOR AND SHIELD



GEAR BOX, DRIVE SHAFT, AND HYD MOTOR

P6 PUMP DRIVELINE



****OVERALL COMPRESSED LENGTH IS 89.08"*****

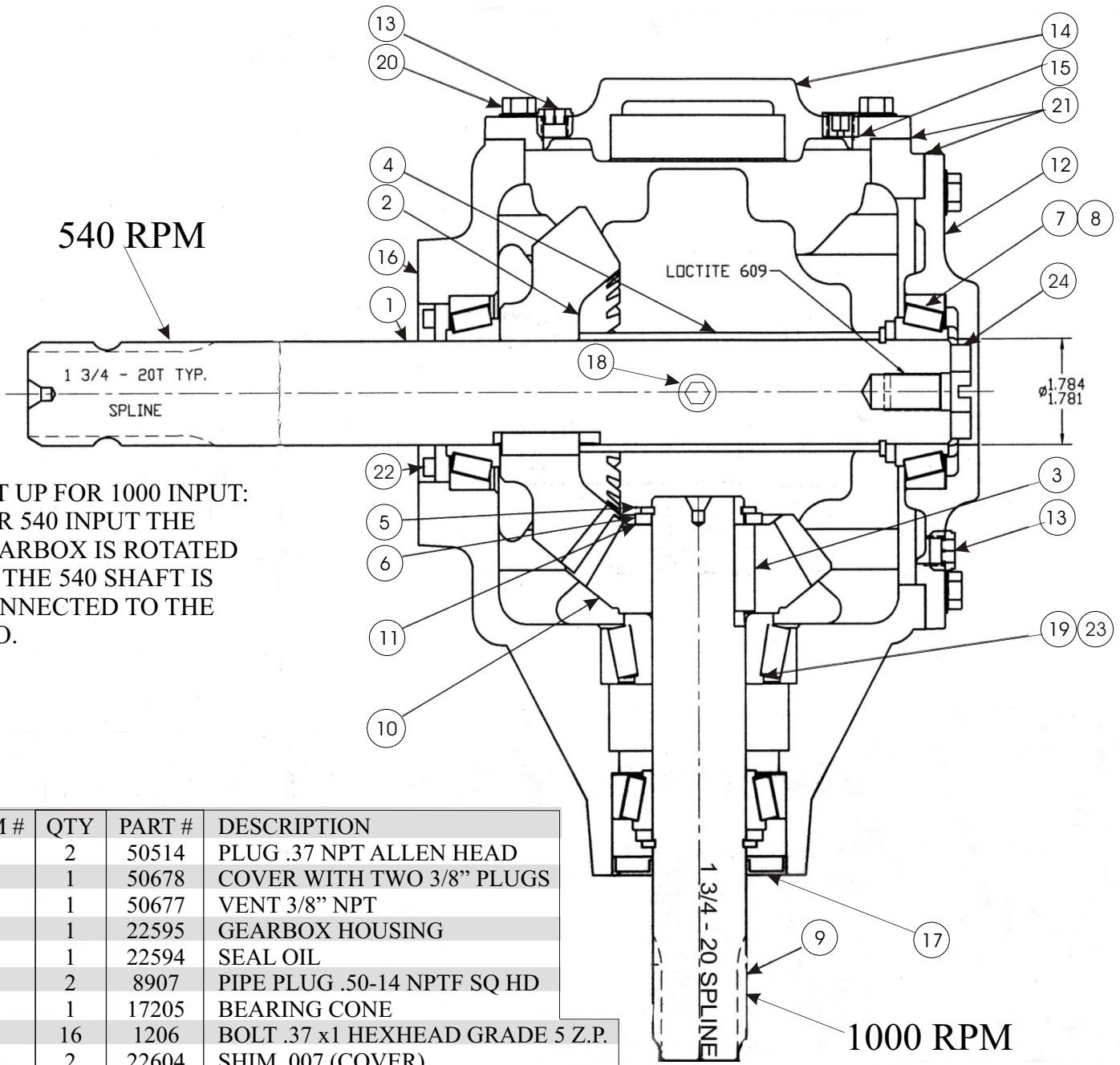
ITEM#	PART#	QTY	DESCRIPTION
1	52024	1	YOKE 1 3/4-20 SPLINE
2	52017	2	CROSS & BEARING KIT
3	52025	1	INBOARD YOKE 52x47
4	52026	1	YOKE 1 3/4-20 SPLINE
5	16817	1	DECAL INN. IN ITEM 3
6	52027	1	ZERK IN ITEM 4
7	50985	1	BOLT 16mm X 90mm
8	3149	1	LOCK NUT 16mm

COMPLETE PART# IS 83220

1/18/06

ITEM #	QTY	PART #	DESCRIPTION
1	1	50681	SHAFT CROSS
2	1	22600	GEAR 27T - 1000 (1:1.35)
3	2	17185	KEY .37 x.37 x1.43 HARDENED
4	1	22610	SPACER
5	3	22606	SNAP RING 1.75 ID
6	3	22611	WASHER 1.75 ID x.179
7	3	8491	INNER BEARING CUP
8	3	11477	BEARING CONE
9	1	50680	SHAFT QUILL
10	1	22601	PINION 20T
11	1	22603	SHIM .007 x1.75 (SHAFT)
12	1	50679	COVER PUMP FLANGE

REMOVE PLUG (part # 18)
AND CHECK OIL. ADD
90W OIL UNTIL 50% FULL.



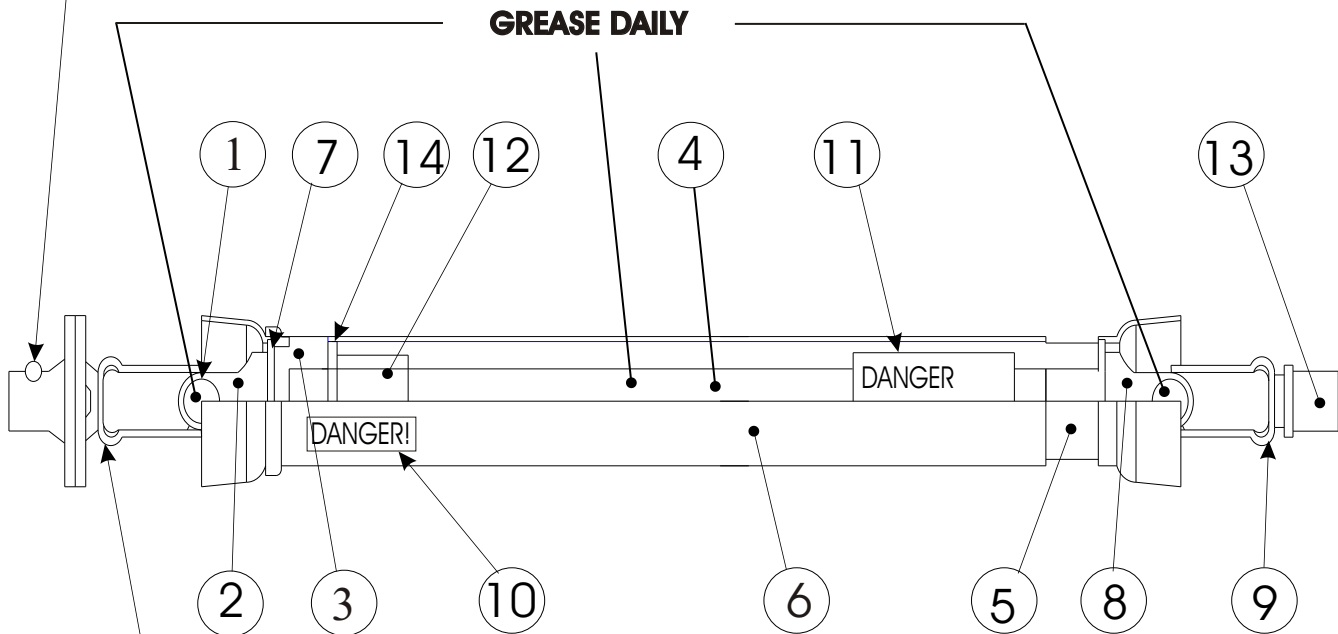
SET UP FOR 1000 INPUT:
FOR 540 INPUT THE
GEARBOX IS ROTATED
SO THE 540 SHAFT IS
CONNECTED TO THE
PTO.

ITEM #	QTY	PART #	DESCRIPTION
13	2	50514	PLUG .37 NPT ALLEN HEAD
14	1	50678	COVER WITH TWO 3/8" PLUGS
15	1	50677	VENT 3/8" NPT
16	1	22595	GEARBOX HOUSING
17	1	22594	SEAL OIL
18	2	8907	PIPE PLUG .50-14 NPTF SQ HD
19	1	17205	BEARING CONE
20	16	1206	BOLT .37 x1 HEXHEAD GRADE 5 Z.P.
21	2	22604	SHIM .007 (COVER)
22	1	36522	SEAL/1.75" SHAFT x3.0" OD
23	1	22602	BEARING CUP
24	1	50676	DRIVE BOLT-TANG

GEARBOX

ITEM #	PART #	DESCRIPTION
1	26072	PTO REPAIR KIT (COMPLETE)
2	26073	BAR YOKE FOR 1 5/16 SQUARE SHAFT
3	50687	1 5/16 SHAFTING WITH 3/16 HOLE LENGTH: 39.5"
4	50688	TORQUE TUBING 2 1/2"OD 2 15/64 ID LENGTH: 34.5"
5	50689	3 1/2" DIA INNER PLASTIC SHIELD LENGTH: 37.25"
6	50690	4" DIA OUTER PLASTIC SHIELD LENGTH: 36.5"
7	16858	BEARING SHIELD
8	26078	TORQUE TUBE YOKE
9	50685	1 3/4" SPLINE BALL FOR IMPLEMENT END
10		DANGER WARNING LABEL
11		INSIDE DANGER LABEL
12	26080	1 5/16 SLIP SLEEVE
13	50684	1 3/4 x20 SPLINE BALL COLLAR KIT
14	5086	44R & 55N SPACER/BEARING

PTO#: 81540 PART #: 7576 (PIN REPAIR KIT)
 PTO#: 81541 PART #: 7576 (PIN REPAIR KIT)
 PTO#: 81542 PART #: 50684 (PIN REPAIR KIT)



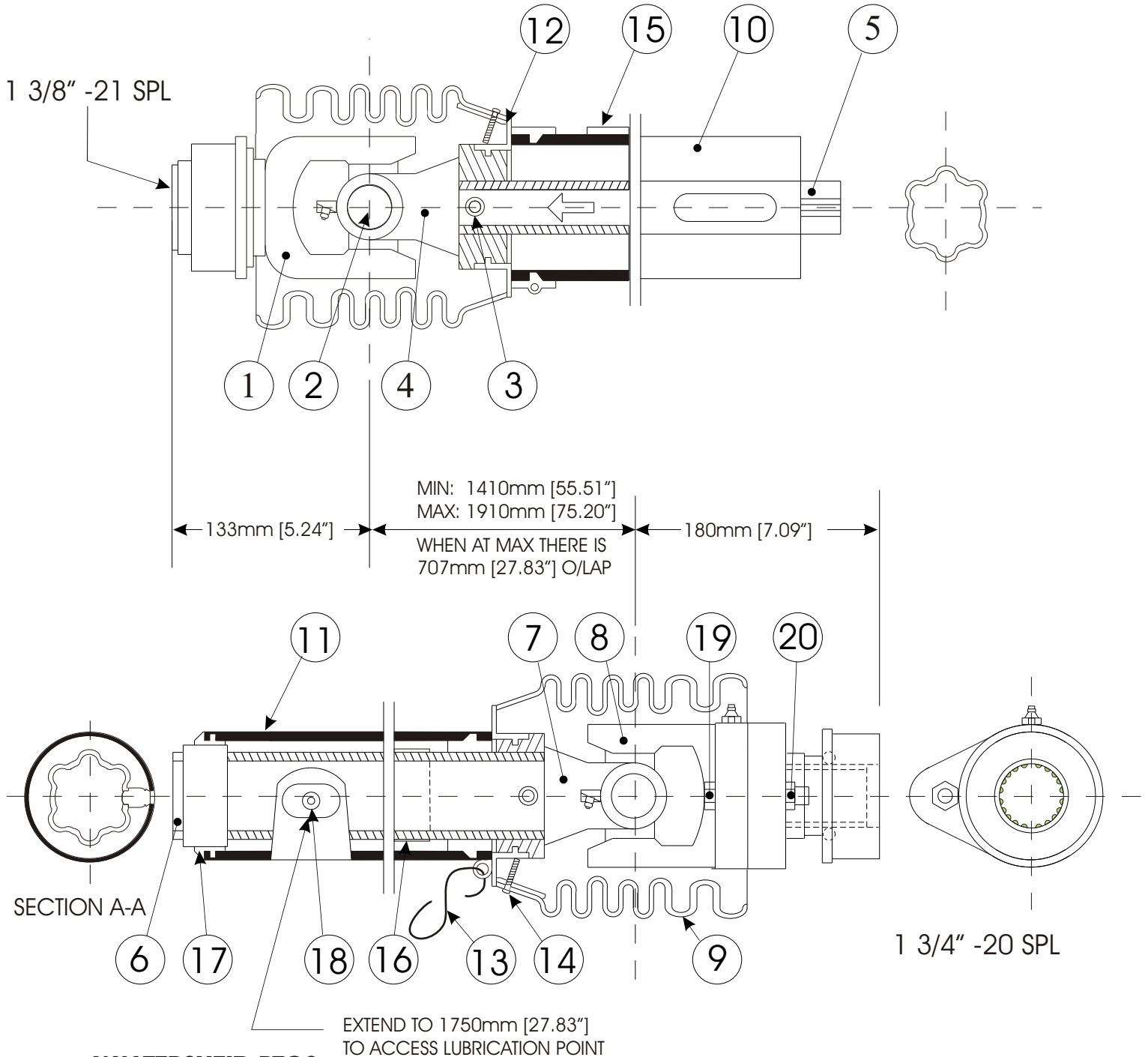
PTO#: 81540 PART #: 26088 (1 3/8 x21 SPLINE YOKE FOR 1000 RPM)
 PTO#: 81541 PART #: 26079 (1 3/8 x6 SPLINE YOKE FOR 540(RPM))
 PTO#: 81542 PART #: 50691 (1 3/4 x20 SPLINE YOKE FOR 1000 RPM)

G & G PTOS

PTO#: 81540 (1 3/8" -21 TO 1 3/4" -20)
 PTO#: 81541 (1 3/8" -6 TO 1 3/4" -20)
 PTO#: 81542 (1 3/4" -20 TO 1 3/4" -20)

G&G PTO 1000 AND 540 RPM

ITEM #	PART #	DESCRIPTION	ITEM #	PART #	DESCRIPTION
1	17479	YOKE 1 3/8" -21 SPLINE	11	52022	INNER SHIELD TUBE
2	52017	CROSS & BEARING KIT	12	16814	BEARING RING
3	17158	SPRING PIN 10 x90	13	16815	SAFETY CHAIN
4	17159	INBOARD YOKE	14	16818	SCREW IN ITEM 9
5	52018	INNER PROFILE	15	18616	DECAL OUTER (IN ITEM 10)
6	52019	PROFILE & SLEEVE	16	18617	DECAL INNER (IN ITEM 6)
7	17162	INBOARD YOKE	17	17171	SUPPORT BEARING
8	52020	SHEAR BOLT CLUTCH	18	16820	ZERK
9	17163	SHIELD CONE 7 RIB	19	17178	BOLT M10x60L (IN ITEM 8)
10	52021	OUTER SHIELD TUBE	20	17179	LOCKNUT M10 (IN ITEM 8)



WALTERSHEID PTOS

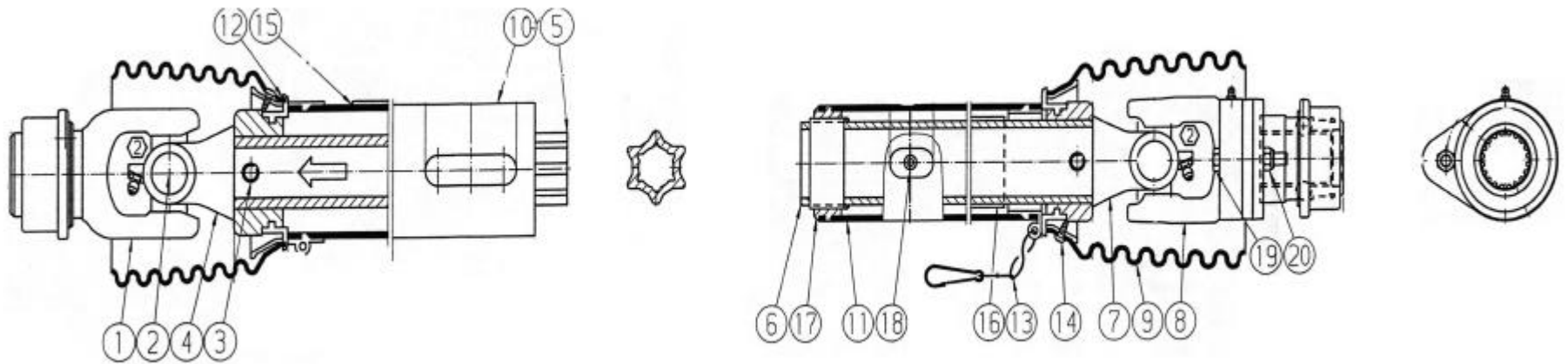
PTO#: 37499 (1 3/8" -21 TO 1 3/4" -20)

PTO#: 37517 (1 3/8" -6 TO 1 3/4" -20)

PTO#: 37519 (1 3/4" -20 TO 1 3/4" -20)

WALTERSCHEID PTOS FOR V6, V8 & P6

WALTERSCHEID V6 PTO, 1 3/8"-21 SPLINE 1000 RPM



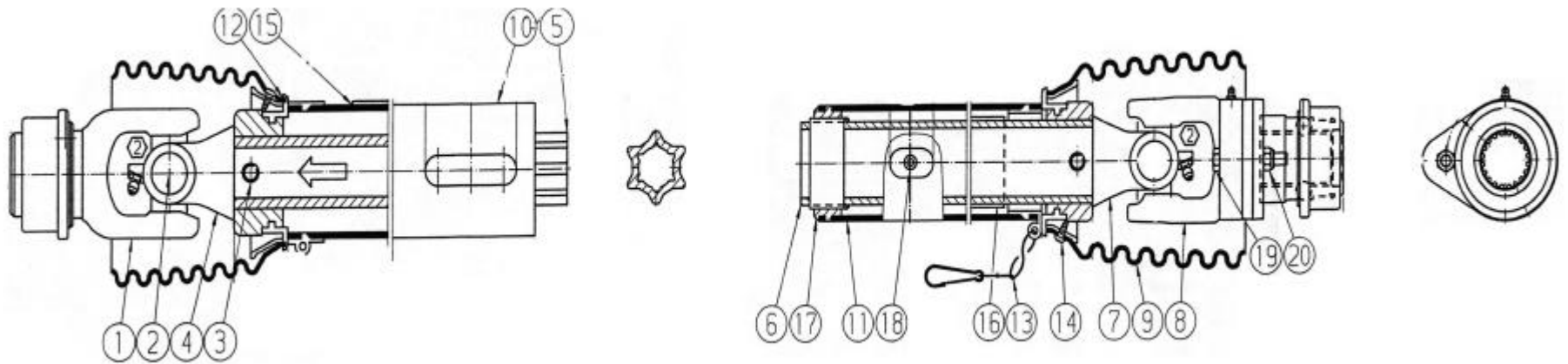
OVERALL COMPRESSED LENGTH, YOKE TO YOKE IS 67.89"

ITEM	PART#	QTY	DESCRIPTION	ITEM	PART#	QTY	DESCRIPTION
1	17479	1	YOKE 1 3/8 21 SP WALTERSCHEID	12	16814	2	BEARING RING SC25
2	52017	2	CROSS & BEARING KIT	13	16815	1	SAFETY CHAIN
3	17158	2	SPRING PIN 10x90	14	16818	2	SCREWS IN 9
4	17159	1	YOKE INBOARD S4	15	16816	1	DECAL OUT-IN ITEM 10
5	52018	1	INNER PROFILE S4	16	16817	1	DECAL INN-IN ITEM 6
6	52019	1	PROFILE & SLEEVE W. A.	17	17171	1	SUPPORT BEARING
7	17162	1	INBOARD YOKE S5	18	16820	1	ZERK IN ITEM 6
8	52020	1	SHEARBOLT CLUTCH, 1 3/4"-20SPL	19	17178	1	BOLT 10mm x 60mm
9	17163	2	SHIELD CONE 7 RIB	20	17179	1	TOPLOCK NUT, 10mm
10	52021	1	SHIELD TUBE OUTER OVAL	21	17172	1	LOCK COLLAR KIT, FOR ITEM 1
11	52022	1	INN SHIELD TUBE RND	22	17173	1	LOCK COLLAR KIT, FOR ITEM 8

COMPLETE PTO PART# 37449

1/18/06

WALTERSCHEID V6 PTO, 1 3/8"-6 SPLINE 540 RPM



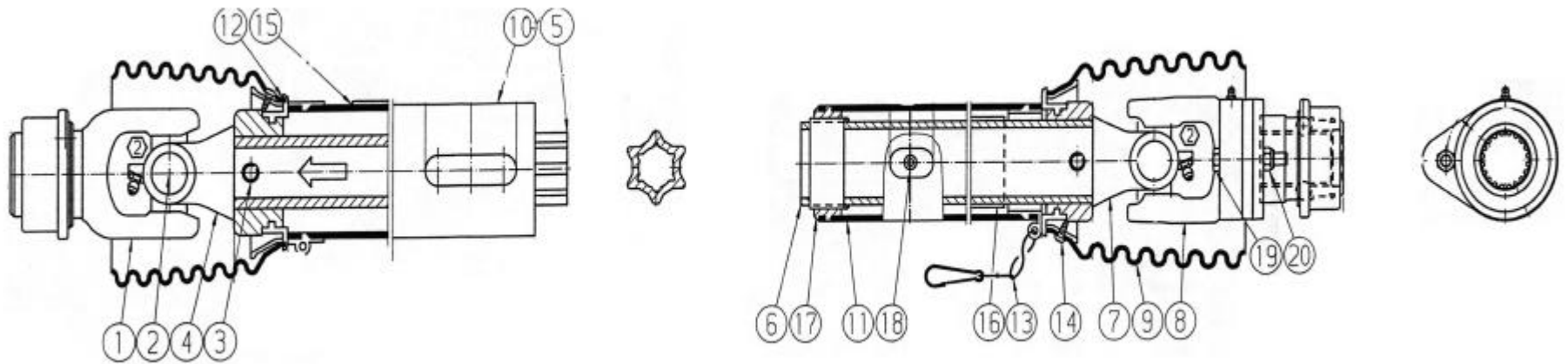
OVERALL COMPRESSED LENGTH, YOKE TO YOKE IS 67.89"

ITEM	PART#	QTY	DESCRIPTION	ITEM	PART#	QTY	DESCRIPTION
1	17491	1	YOKE 1 3/8 6 SP WALTERSCHEID	12	16814	2	BEARING RING SC25
2	52017	2	CROSS & BEARING KIT	13	16815	1	SAFETY CHAIN
3	17158	2	SPRING PIN 10x90	14	16818	2	SCREWS IN 9
4	17159	1	YOKE INBOARD S4	15	16816	1	DECAL OUT-IN ITEM 10
5	52018	1	INNER PROFILE S4	16	16817	1	DECAL INN-IN ITEM 6
6	52019	1	PROFILE & SLEEVE W. A.	17	17171	1	SUPPORT BEARING
7	17162	1	INBOARD YOKE S5	18	16820	1	ZERK IN ITEM 6
8	52020	1	SHEARBOLT CLUTCH, 1 3/4"-20SPL	19	17178	1	BOLT 10mm x 60mm
9	17163	2	SHIELD CONE 7 RIB	20	17179	1	TOPLOCK NUT, 10mm
10	52021	1	SHIELD TUBE OUTER OVAL	21	17172	1	LOCK COLLAR KIT, FOR ITEM 1
11	52022	1	INN SHIELD TUBE RND	22	17173	1	LOCK COLLAR KIT, FOR ITEM 8

COMPLETE PTO PART# 37517

1/18/06

WALTERSCHEID V6 PTO, 1 3/4"-20 SPLINE 1000 RPM



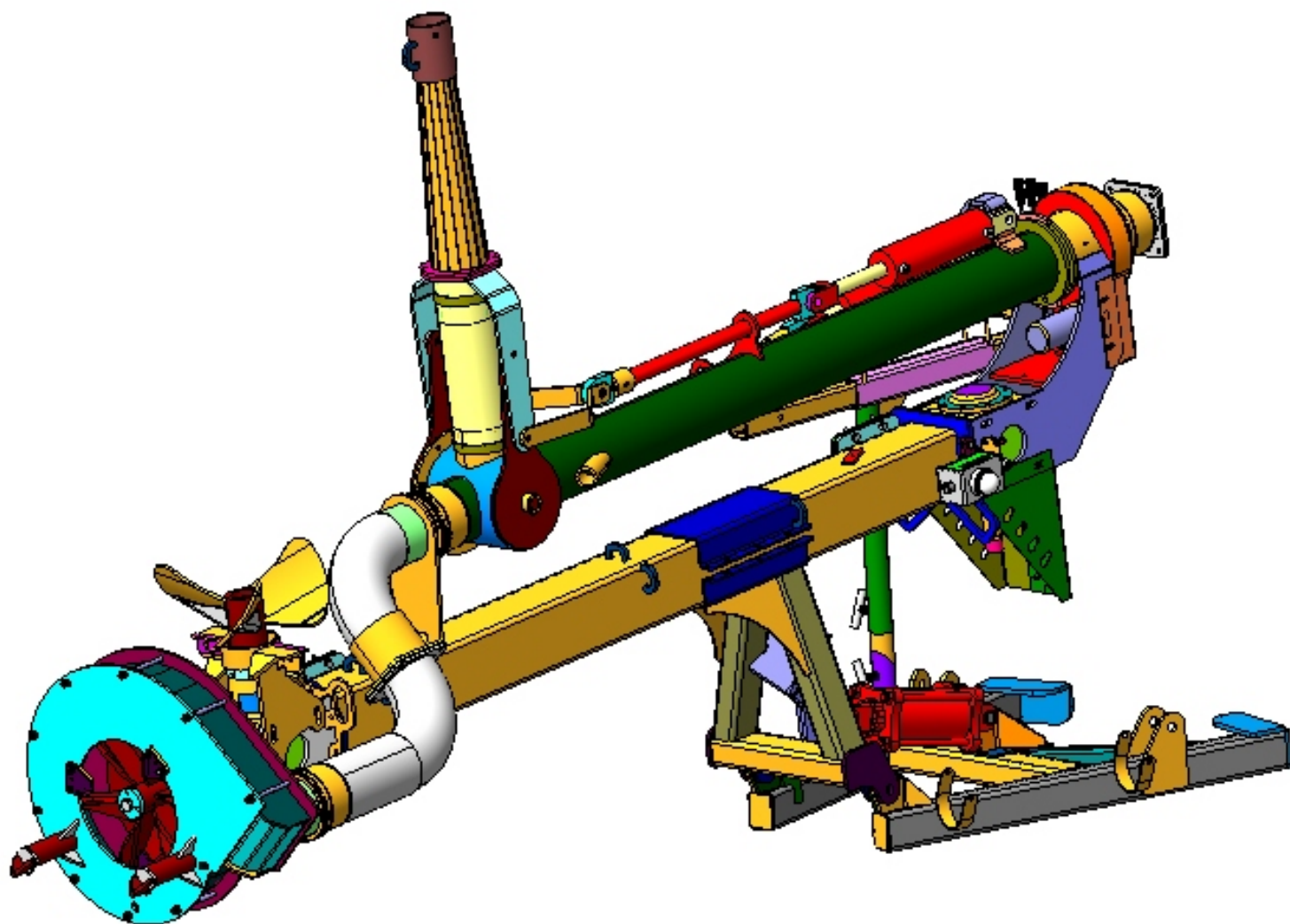
OVERALL COMPRESSED LENGTH, YOKE TO YOKE IS 67.89"

ITEM	PART#	QTY	DESCRIPTION	ITEM	PART#	QTY	DESCRIPTION
1	17200	1	YOKE 1 3/4-20 SP WALTERSCHEID	12	16814	2	BEARING RING SC25
2	52017	2	CROSS & BEARING KIT	13	16815	1	SAFETY CHAIN
3	17158	2	SPRING PIN 10x90	14	16818	2	SCREWS IN 9
4	17159	1	YOKE INBOARD S4	15	16816	1	DECAL OUT-IN ITEM 10
5	52018	1	INNER PROFILE S4	16	16817	1	DECAL INN-IN ITEM 6
6	52019	1	PROFILE & SLEEVE W. A.	17	17171	1	SUPPORT BEARING
7	17162	1	INBOARD YOKE S5	18	16820	1	ZERK IN ITEM 6
8	52020	1	SHEARBOLT CLUTCH, 1 3/4"-20SPL	19	17178	1	BOLT 10mm x 60mm
9	17163	2	SHIELD CONE 7 RIB	20	17179	1	TOPLOCK NUT, 10mm
10	52021	1	SHIELD TUBE OUTER OVAL	21	17173	1	LOCK COLLAR KIT, FOR ITEM 1
11	52022	1	INN SHIELD TUBE RND	22	17173	1	LOCK COLLAR KIT, FOR ITEM 8

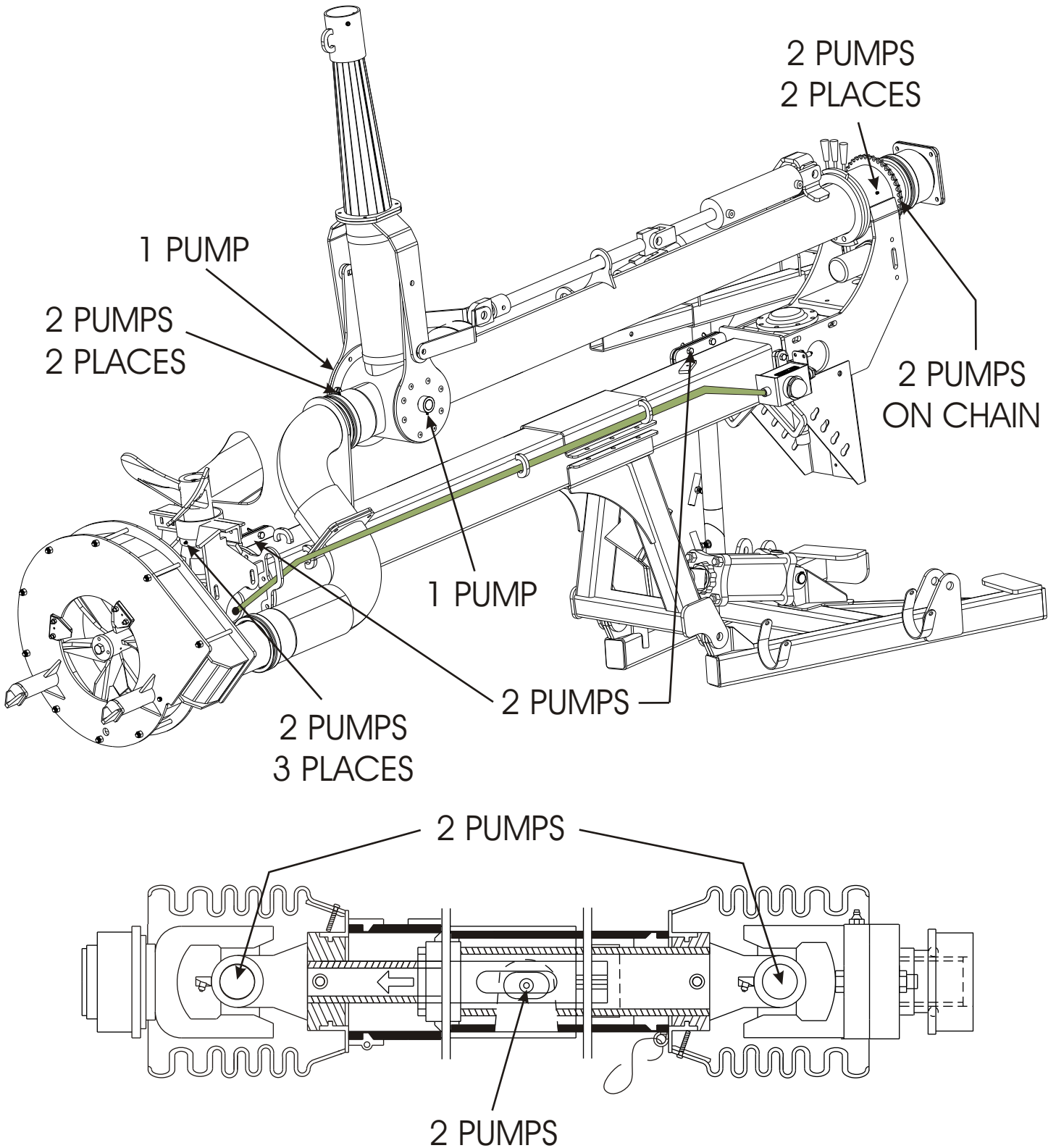
COMPLETE PTO PART# 37519

1/18/06

BALZER P-PUMPS



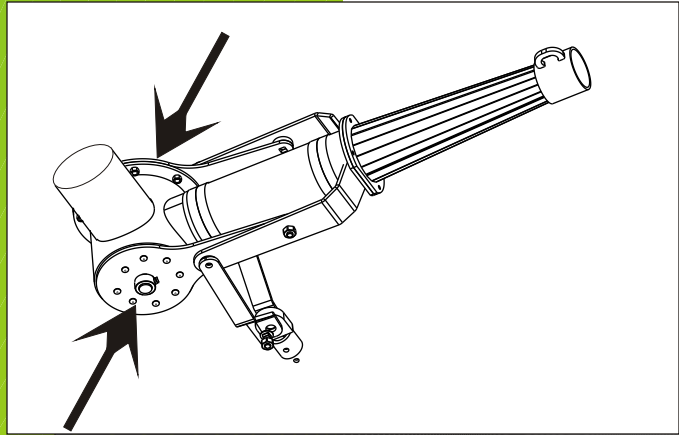
GREASE POINTS FOR P-PUMPS



GREASE POINTS FOR P-PUMP

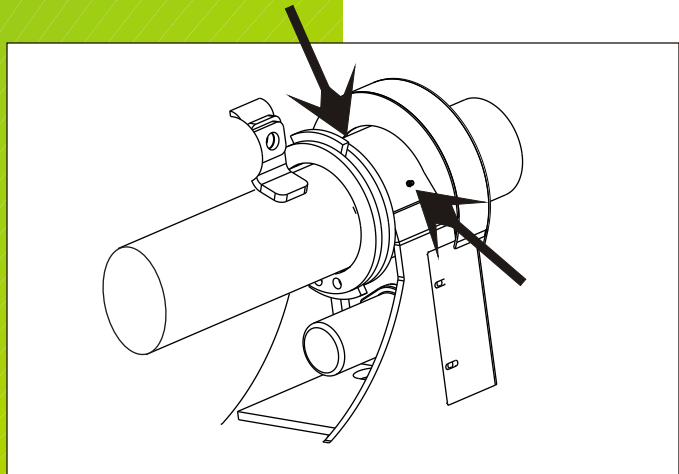
VALVE SHAFT:

One grease point is located on either side of the base of the gun. These points should be greased daily with one pumps of grease.



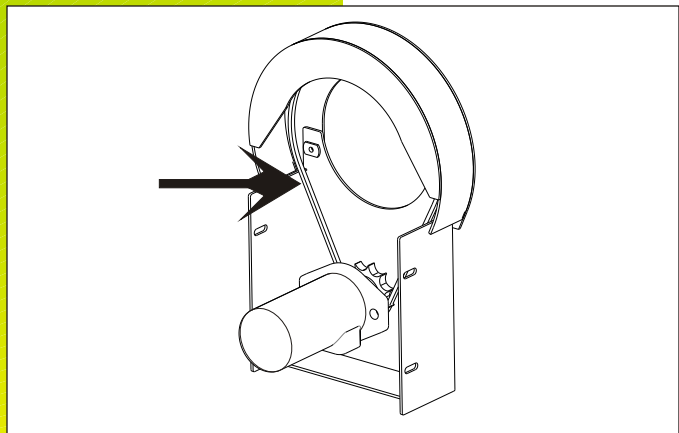
UPPER SWIVEL:

Two grease points are located on the main pipe near the motor. These points should be greased daily with one pump of grease.



MOTOR CHAIN:

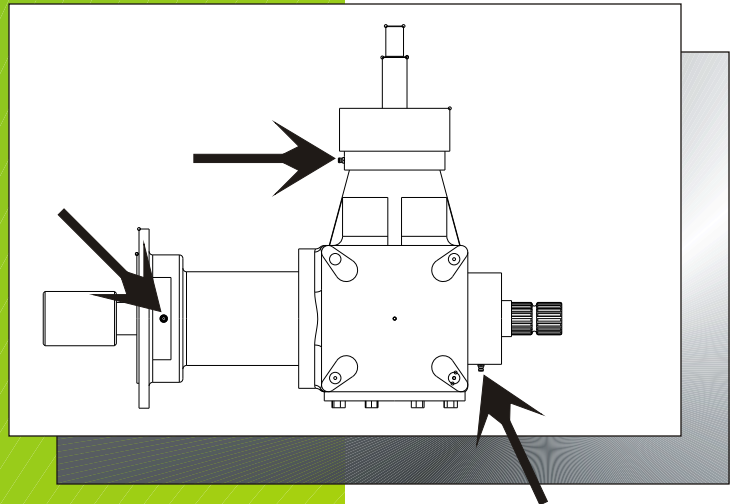
Grease motor chain weekly.



GREASE POINTS FOR P-PUMP

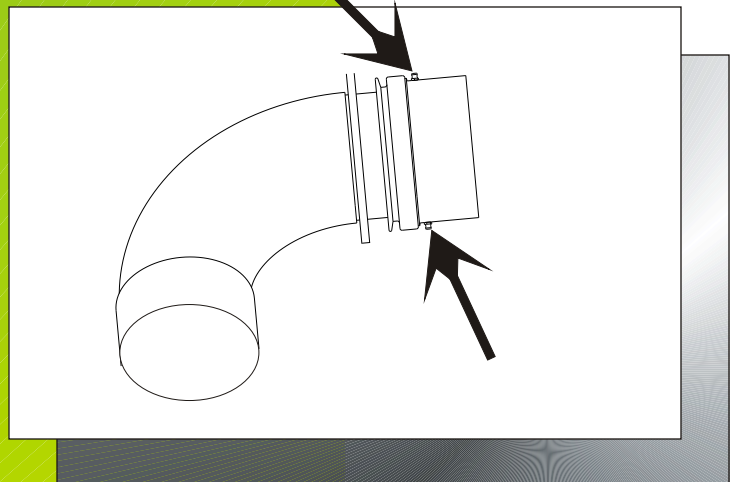
PROPGEAR BOX:

There are three zerks on the prop gear box. Grease each one with two pumps daily.



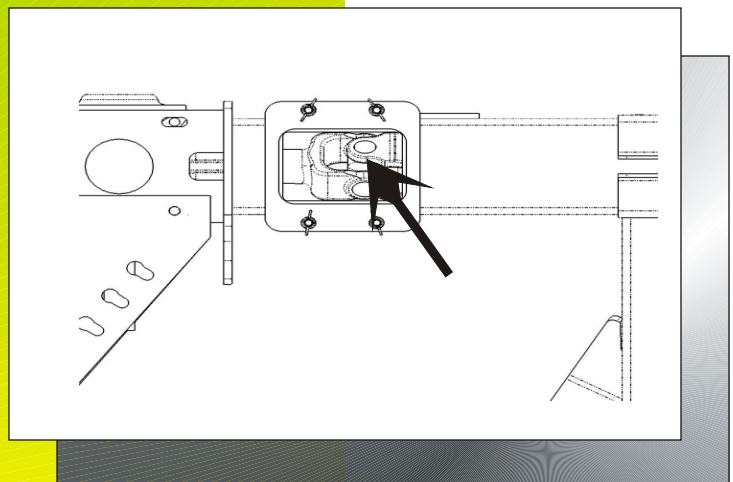
BASE SWIVEL:

Two points are located near the transitional pipe. Grease both points with one pump daily.



DRIVE LINE CROSSES:

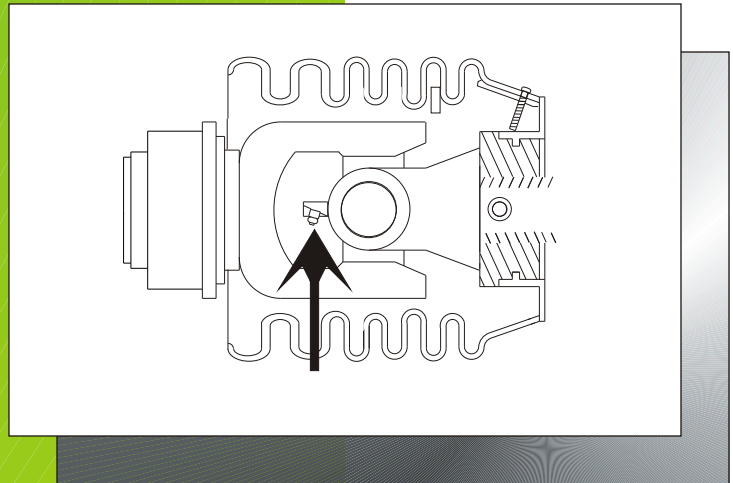
Remove the exterior covers to expose the drive line. Grease the two crosses with two pumps daily.



GREASE POINTS FOR P-PUMP

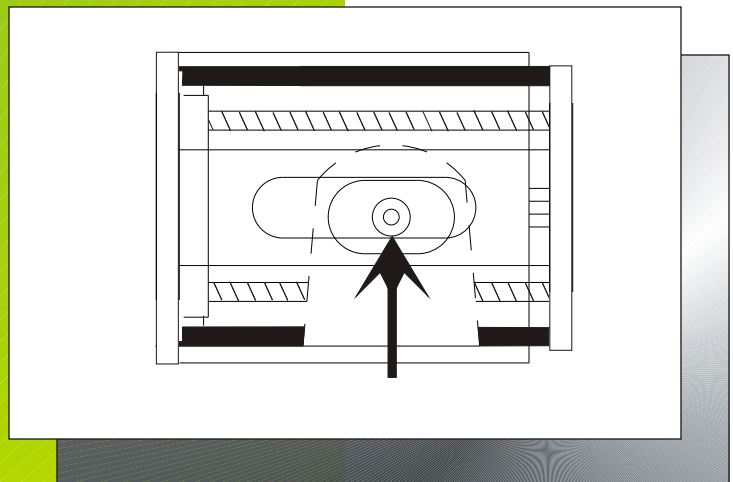
PTO CROSS:

Grease PTO with one pump of grease daily.



PTO TUBE:

Grease PTO tube with three pumps daily.

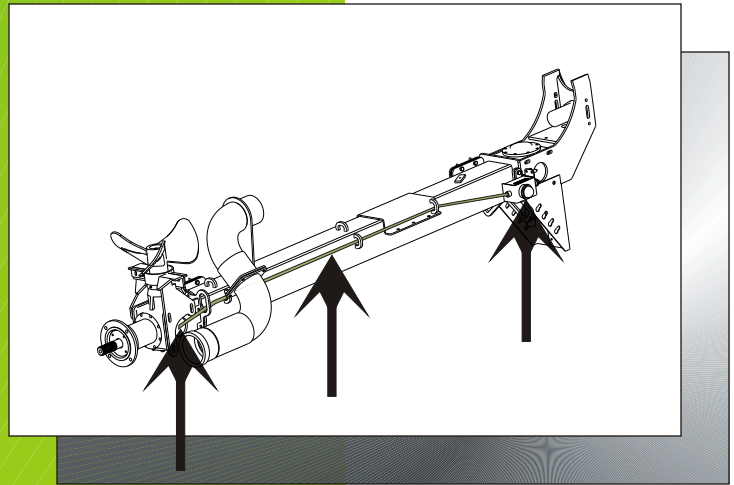


NOTE: AMOUNT OF GREASE IS FOR USE UNDER NORMAL WORKING CONDITIONS. ACTUAL GREASE NEEDS MAY BE DIFFERENT DEPENDING ON THE WORK CONDITIONS.

OIL INSTRUCTIONS

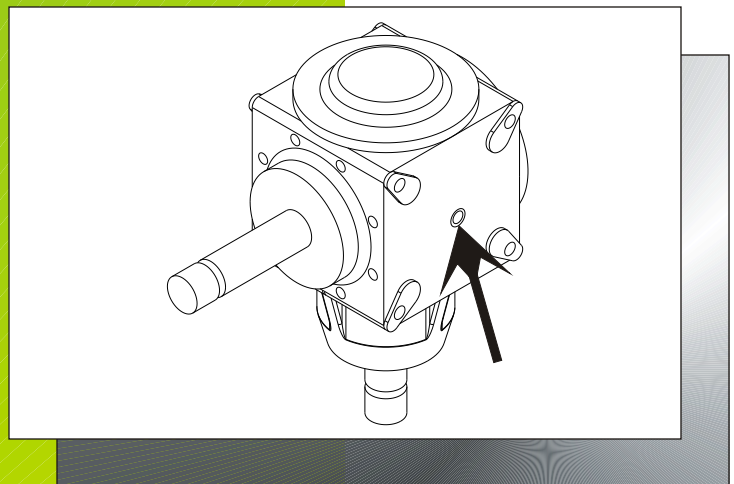
IMPELLER OIL:

Check oil at oil reservoir. Make sure that reservoir is 50% full. Add 90W oil when pump is in vertical position.



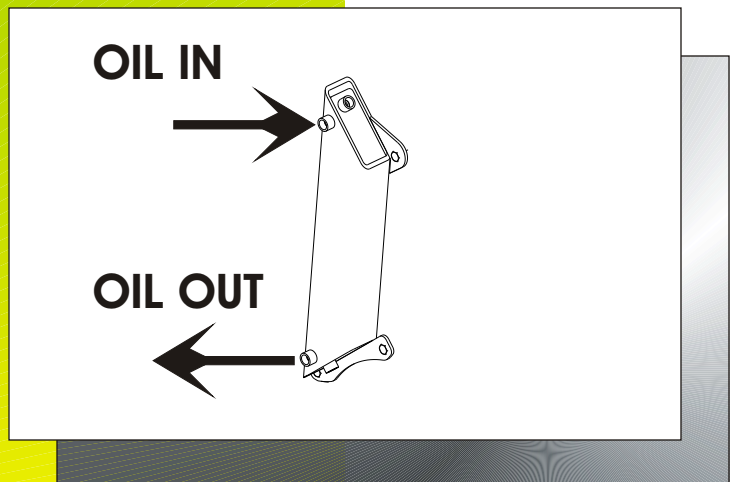
NON-PROP GEAR BOX:

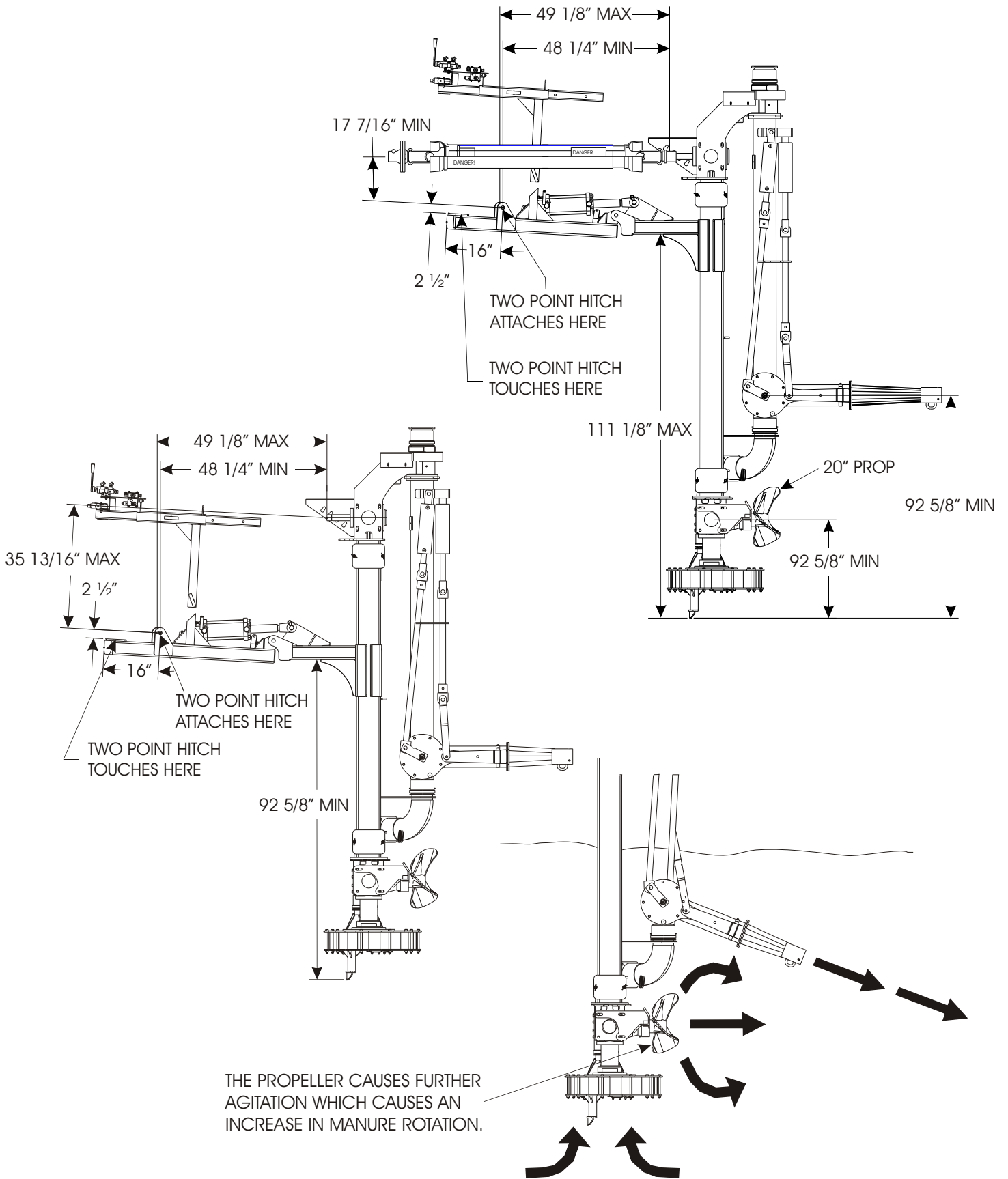
Check oil. Add 90W oil until 50% full.



OIL COOLING SYSTEM (OPTIONAL)

If the pump is equipped with an oil cooling system, check oil at the gearbox in a vertical position.

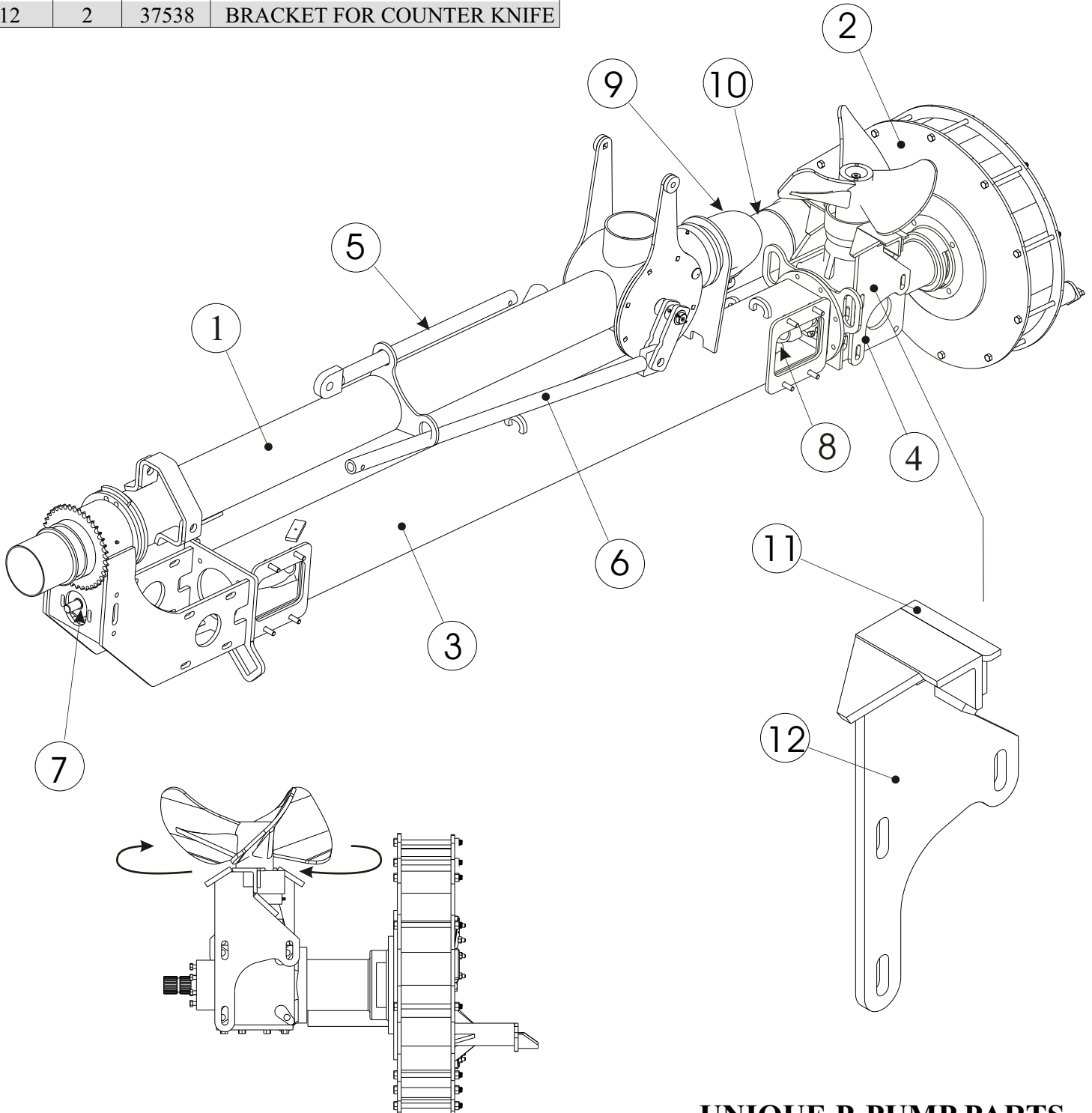




PTO CONNECTION

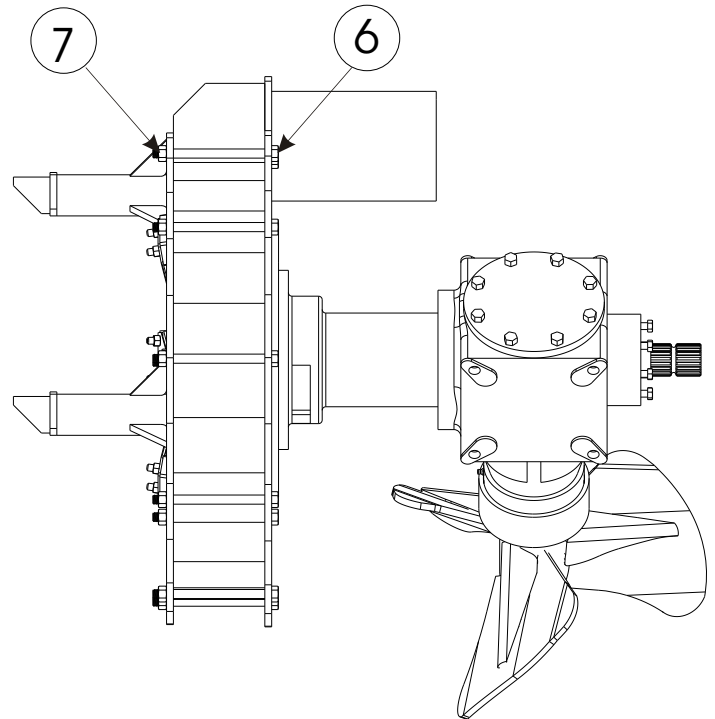
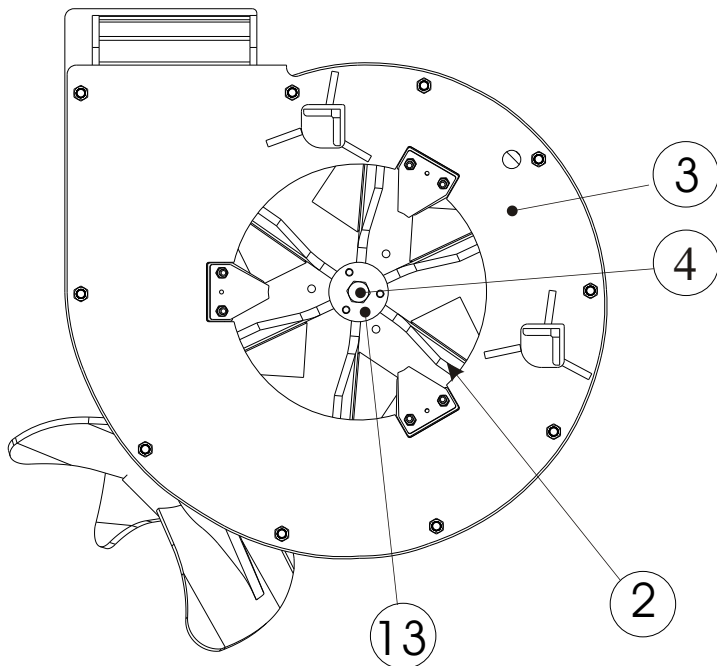
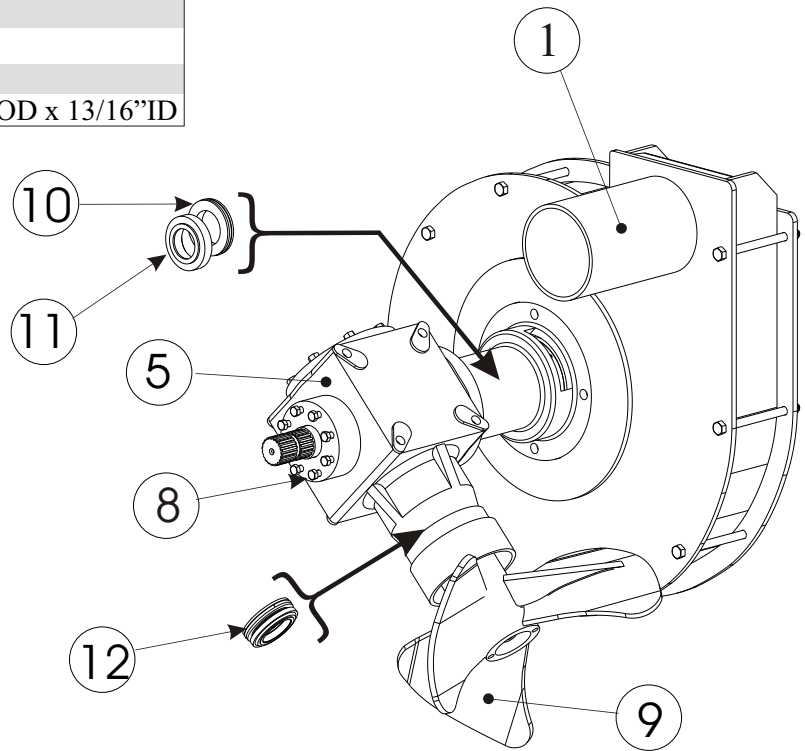
ITEM #	QTY	PART #	DESCRIPTION
1	1	83206	HIGH VALVE
2	1	83210	IMPELLER
3	1	83201	TUBE 7 x7
4	1	83203	P6 PUMP MOUNT
5	1	82116	LUG FOR GUN
6	1	82115	LUG FOR VALVE
7	1	31757	HYDRAULIC MOTOR
8	1	83220	DRIVE LINE
9	1	83215	UPPER TRANSITION
10	1	83216	LOWER TRANSITION
11	2	18001	COUNTER KNIFE
12	2	37538	BRACKET FOR COUNTER KNIFE

THE FOLLOWING PARTS ARE THOSE THAT ARE UNIQUE TO P-PUMPS. WITH THE EXCEPTION OF THE MOTOR, THEY ARE NOT FOUND ON THE V6 OR V8 PUMPS. THE MOTOR IS FOUND ON V6 PUMPS BUT NOT V8.

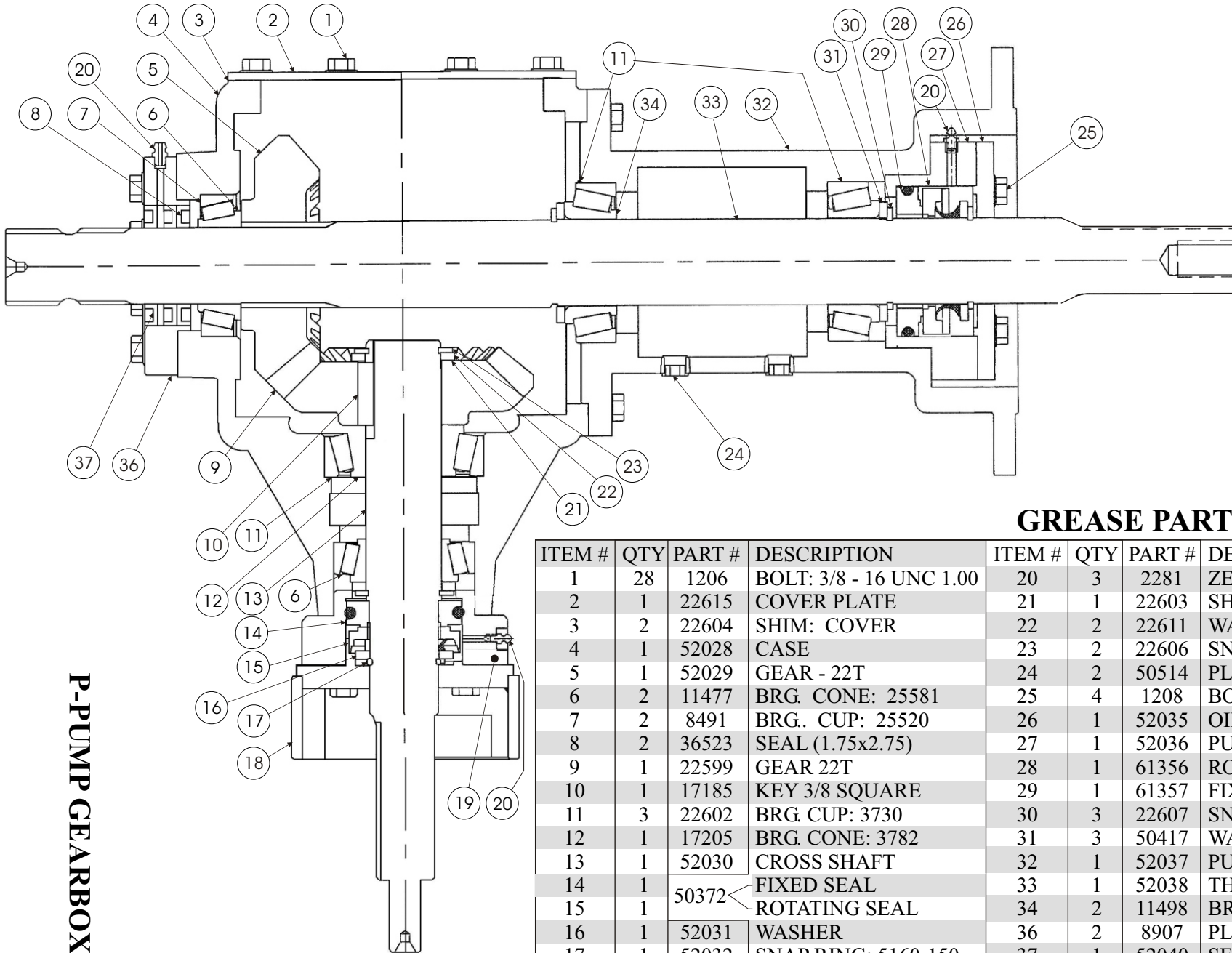


UNIQUE P-PUMP PARTS

ITEM #	QTY	PART #	DESCRIPTION
1	1	82774	IMPELLER HOUSING
2	1	82755	IMPELLER
3	1	83209	COVER PLATE
4	1	1329	BOLT .75-16 x2.5 HEX
5	1	37450	GEAR BOX RATIO 1:1
6	10	1265	BOLT .5 x6.5
7	10	2539	NUT .5 x6.5
8	8	1208	BOLT 3/8" 1 1/2" LONG
9	1	21255	PROPELLER 20" W/ 3/8" BLADES
10	1	61357	SEAL FIXED
11	1	61356	SEAL ROTATING
12	1	50372	SEAL KIT
13	1	82819	WASHER 1/2"x2 3/4" OD x 13/16"ID



P-PUMP IMPELLER

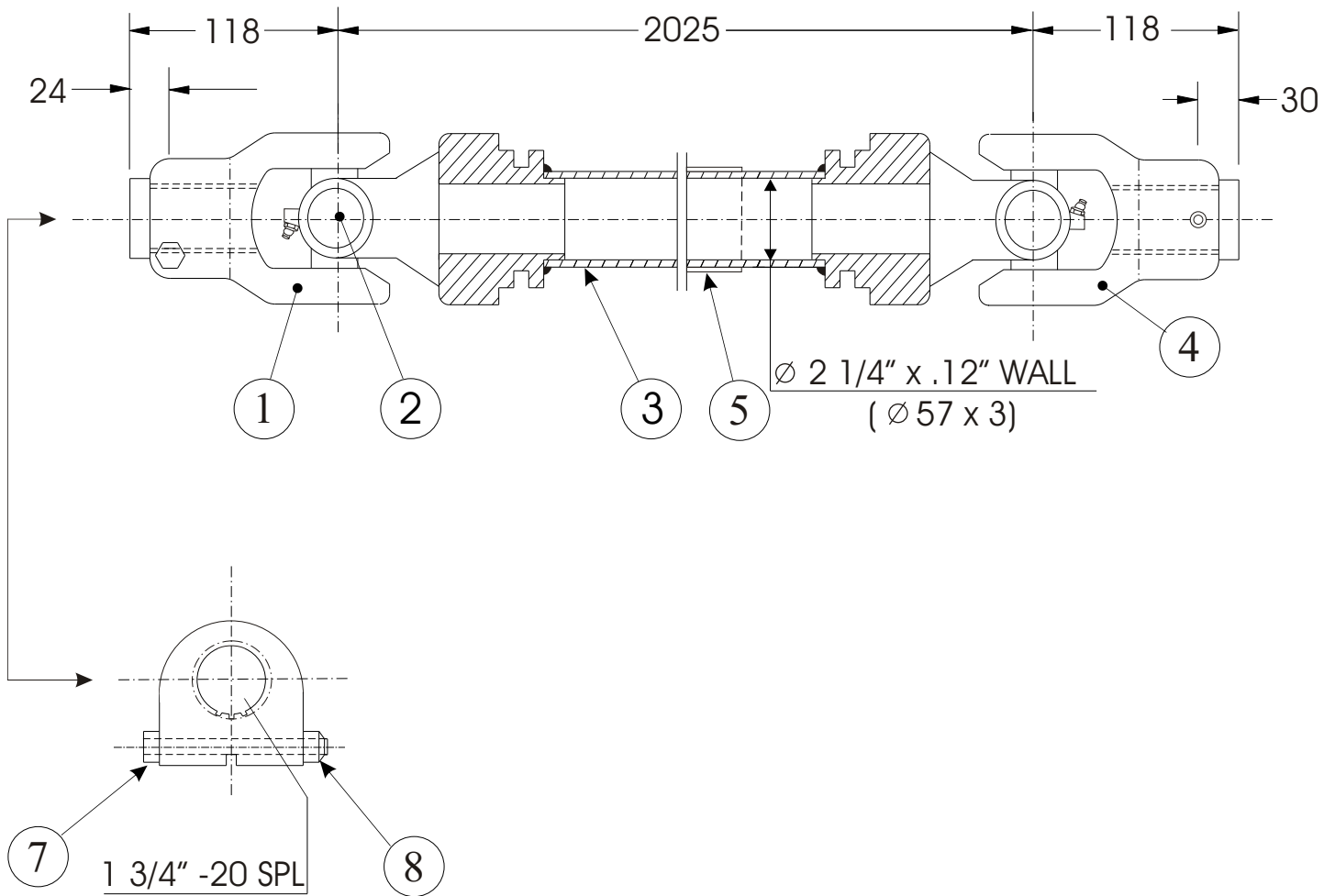


GREASE PART # 20 DAILY

ITEM #	QTY	PART #	DESCRIPTION	ITEM #	QTY	PART #	DESCRIPTION
1	28	1206	BOLT: 3/8 - 16 UNC 1.00	20	3	2281	ZERK: 1/4 -28 STRAIGHT
2	1	22615	COVER PLATE	21	1	22603	SHIM 1.75 x.007
3	2	22604	SHIM: COVER	22	2	22611	WASHER: 1.75 x.179
4	1	52028	CASE	23	2	22606	SNAP RING 5160-175
5	1	52029	GEAR - 22T	24	2	50514	PLUG 3/8 NPT
6	2	11477	BRG. CONE: 25581	25	4	1208	BOLT 3/8 -16 x1.50
7	2	8491	BRG. CUP: 25520	26	1	52035	OIL COVER
8	2	36523	SEAL (1.75x2.75)	27	1	52036	PUMP ADAPTOR COVER
9	1	22599	GEAR 22T	28	1	61356	ROTATING SEAL: 61396
10	1	17185	KEY 3/8 SQUARE	29	1	61357	FIXED SEAL: 61357
11	3	22602	BRG. CUP: 3730	30	3	22607	SNAP RING: 5160-200
12	1	17205	BRG. CONE: 3782	31	3	50417	WASHER 2.00-.179
13	1	52030	CROSS SHAFT	32	1	52037	PUMP ADAPTOR
14	1	50372	FIXED SEAL	33	1	52038	THRU SHAFT
15	1		ROTATING SEAL	34	2	11498	BRG. CONE: 3780
16	1	52031	WASHER	36	2	8907	PLUG 1/2 NPT
17	1	52032	SNAP RING: 5160-150	37	1	52040	SEAL COVER
18	1	52033	QUILL	38	1	6456	SEAL VITON 1.75 x2.75
19	1	52034	CARRERECH SEAL				

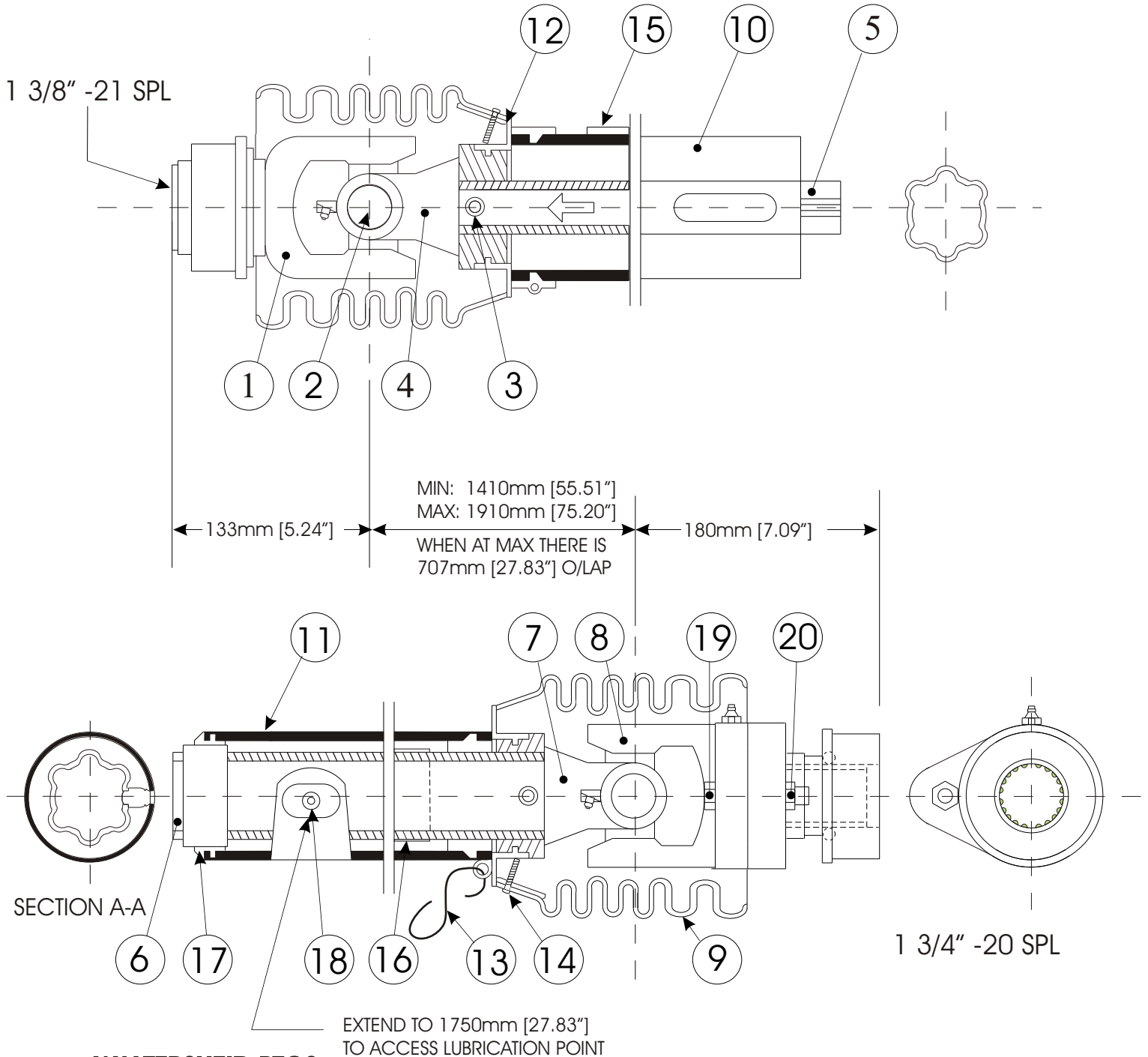
P-PUMP GEARBOX (37450)

ITEM #	QTY	PART #	DESCRIPTION
1	1	52024	YOKE 1/34" -20 SPL
2	2	52017	CROSS & BEARING KIT
3	1	52025	I. B. YOKES & TUBE
4	1	52026	YOKE 1 3/4" -20 SPL
5	1	16817	SAFETY SIGN
6	1	52027	ZERK
7	1	50985	BOLT M16 x90L
8	1	3149	LOCK NUT M16



P-PUMP DRIVE LINE ONLY (83220)

ITEM #	PART #	DESCRIPTION	ITEM #	PART #	DESCRIPTION
1	17479	YOKE 1 3/8" -21 SPLINE	11	52022	INNER SHIELD TUBE
2	52017	CROSS & BEARING KIT	12	16814	BEARING RING
3	17158	SPRING PIN 10 x90	13	16815	SAFETY CHAIN
4	17159	INBOARD YOKE	14	16818	SCREW IN ITEM 9
5	52018	INNER PROFILE	15	18616	DECAL OUTER (IN ITEM 10)
6	52019	PROFILE & SLEEVE	16	18617	DECAL INNER (IN ITEM 6)
7	17162	INBOARD YOKE	17	17171	SUPPORT BEARING
8	52020	SHEAR BOLT CLUTCH	18	16820	ZERK
9	17163	SHIELD CONE 7 RIB	19	17178	BOLT M10x60L (IN ITEM 8)
10	52021	OUTER SHIELD TUBE	20	17179	LOCKNUT M10 (IN ITEM 8)



WALTERSHEID PTOS

- PTO#: 37499 (1 3/8" -21 TO 1 3/4" -20)
- PTO#: 37517 (1 3/8" -6 TO 1 3/4" -20)
- PTO#: 37519 (1 3/4" -20 TO 1 3/4" -20)

WALTERSCHEID PTOS FOR V6, V8 & P6

OIL COOLING SYSTEM (OPTIONAL)

The oil cooling system is an option that is available for the V6, V8, and P-Pump. (1000 RPM ONLY)

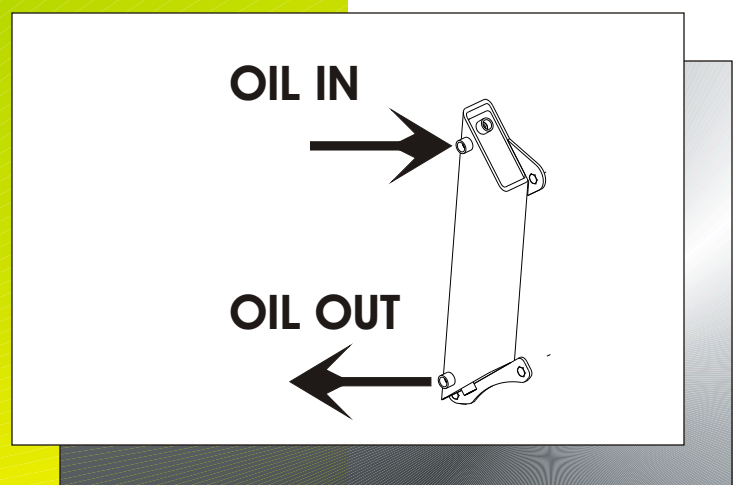
The cooling pump pushes oil out of the gearbox and into the cooling reservoir. The oil is then cooled by the temperature of the manure. The cooling pump then pumps the cooled oil back to the gearbox.

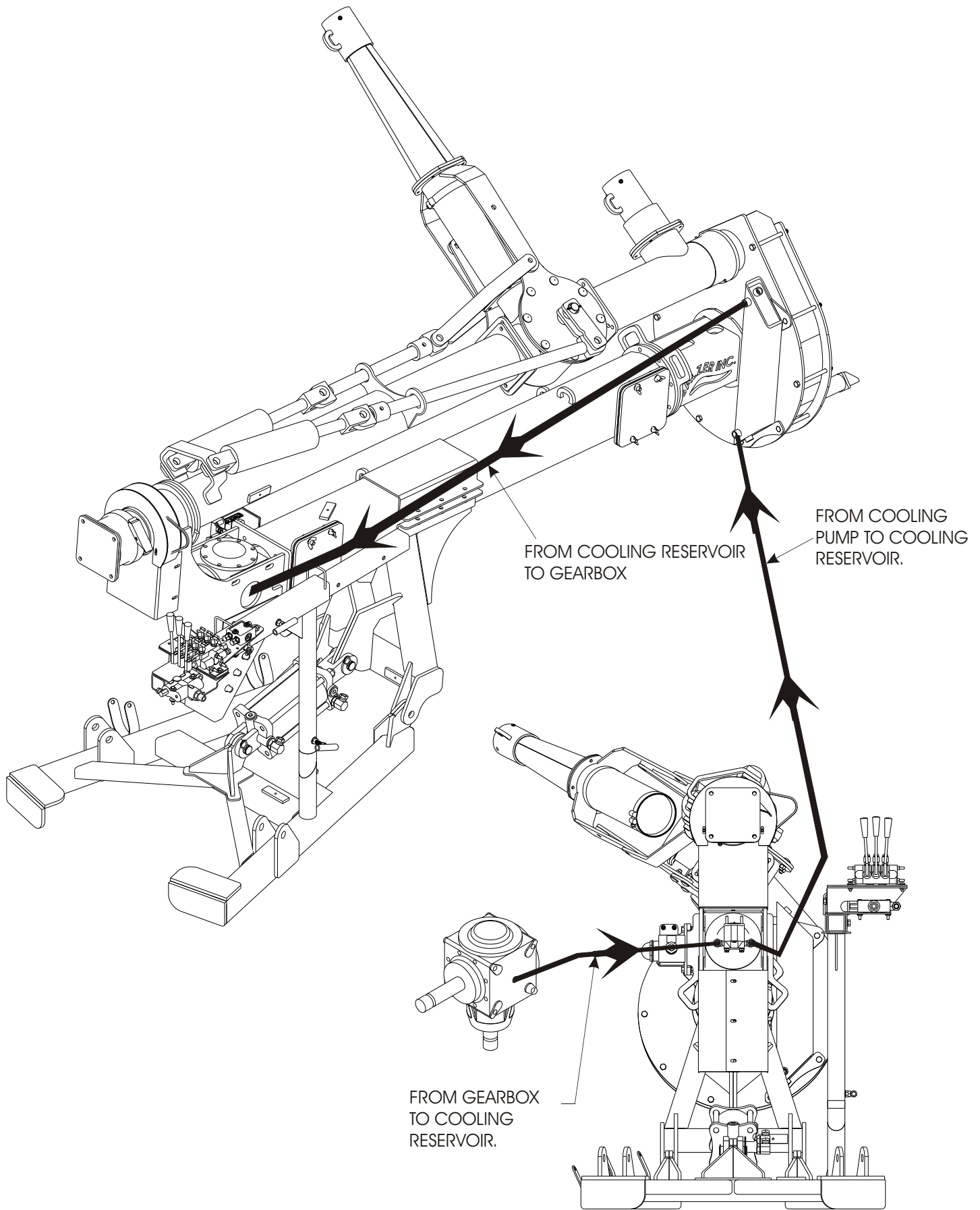
ALWAYS lift the pump out of the pit to check and fill the oil.

ALWAYS check oil daily.

CAUTION! Operation with below the recommended amount of oil can damage the equipment.

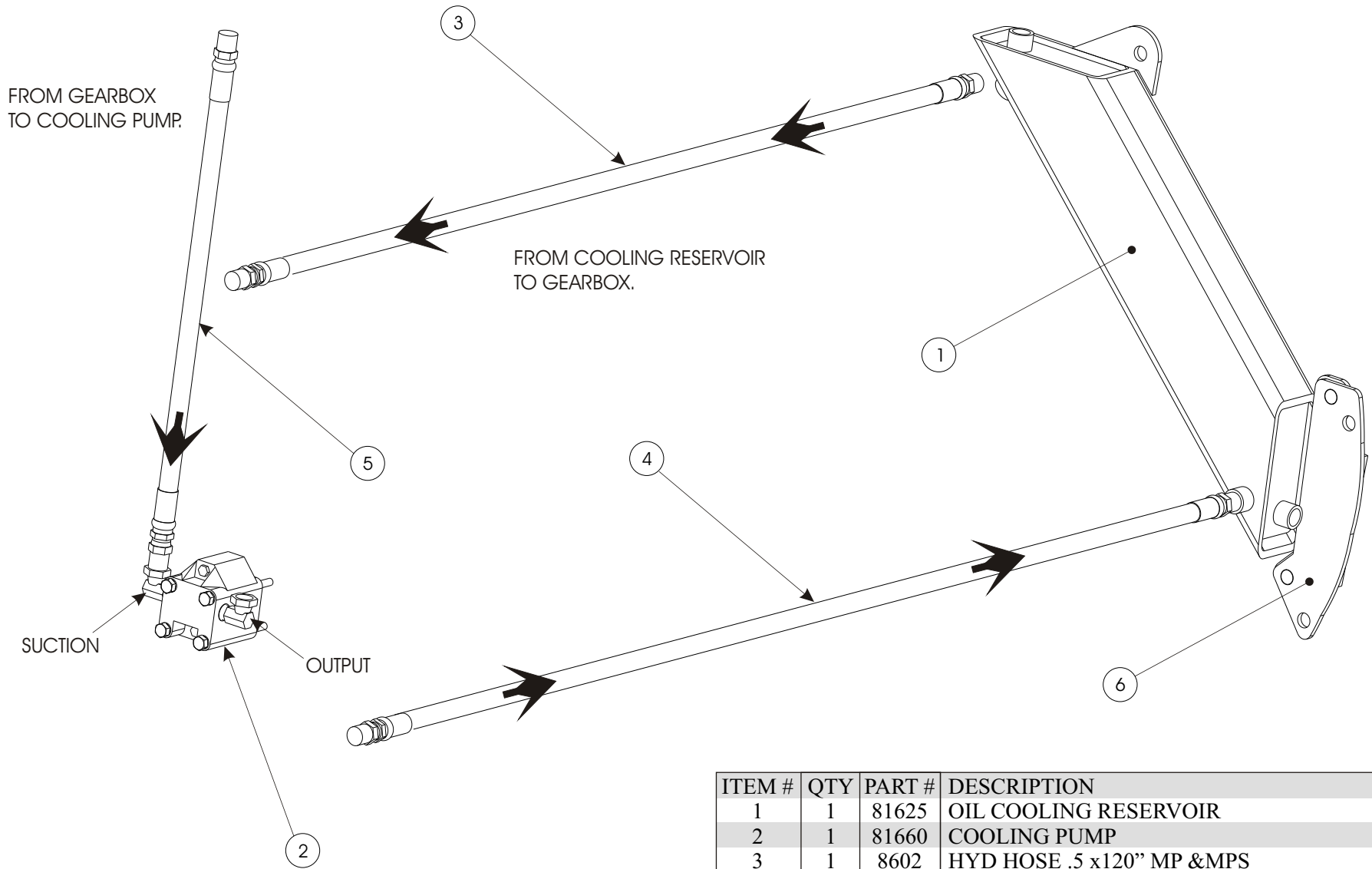
Fill reservoir until full with 90W oil.





OIL FLOW SCHEMATIC

OIL FLOW DIRECTION



ITEM #	QTY	PART #	DESCRIPTION
1	1	81625	OIL COOLING RESERVOIR
2	1	81660	COOLING PUMP
3	1	8602	HYD HOSE .5 x120" MP &MPS
4	1	81585	HYD HOSE .5 x150" NPT MALE BOTH ENDS
5	1	9312	HYD HOSE .5 x24" MP & MPS
6	1	83162	BRACKET

FINGER TOUCH CONTROLS (OPTIONAL)

The Finger Touch Control System is an option that is available for the V6, V8, and P-Pumps.

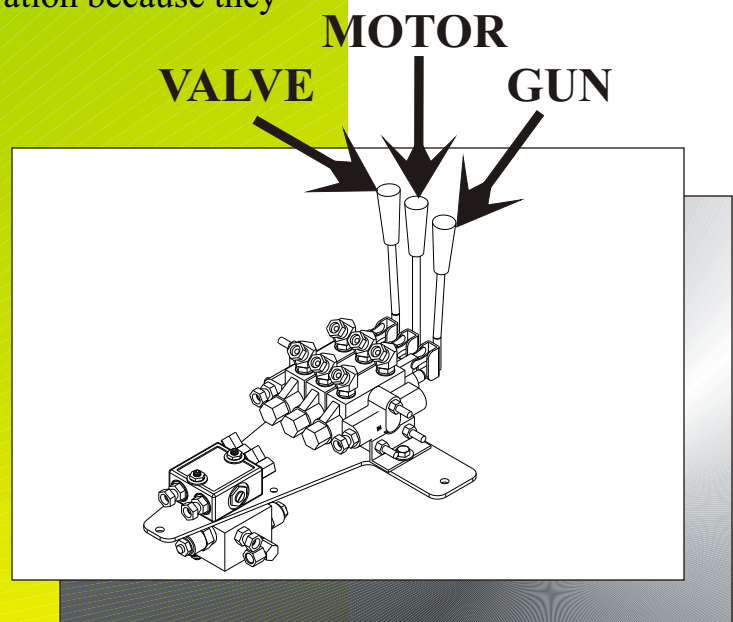
The Finger Touch Control System allows the operator to control the direction of the gun, the direction of the valve, and the hydraulic motor from outside the tractor.

The controls are powered by the tractors hydraulic system.

DO NOT smoke while working on hydraulic systems!

NEVER use your hands to search for hydraulic fluid leaks; escaping fluid under pressure can be invisible and can penetrate the skin and cause a serious injury! If any fluid is injected into your skin, see a doctor at once! Injected fluid **MUST BE** surgically removed by a doctor familiar with this type of injury or gangrene may result!

DO NOT attempt to loosen or disconnect ANY hydraulic Lines, Hoses, or Fittings without first relieving hydraulic circuit pressure. Also, be careful **NOT** to touch any hydraulic components that have been in recent operation because they can be extremely **HOT!**



ITEM #	QTY	PART #	DESCRIPTION
1	1	37069	COUNTER BALANCE VALVE 6:1
2	1	37068	DOUBLE CHECK VALVE 3:1
3	1	21011	3 BANK VALVE ASSEMBLY
4	2	21674	FLOW CONTROL ASSEMBLY
5	1	81570	CONTROL ARM "T"

