



MODEL 900RTW

PRAIRIE DOG BORING MACHINE



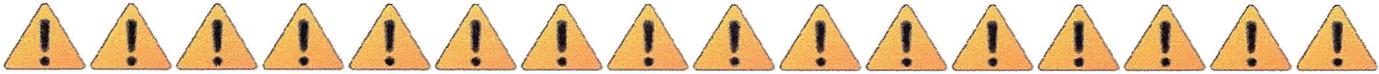
OWNERS MANUAL & PARTS LIST

PRAIRIE DOG BORING EQUIPMENT, INC.

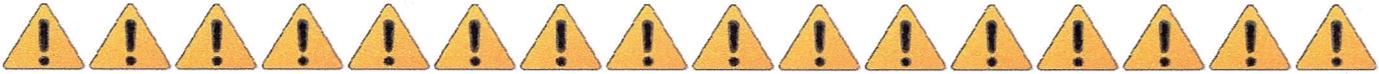
10006 AIRLINE DRIVE
HOUSTON, TEXAS 77037
281-448-8442 FAX: 281-448-5553

BORING MACHINES CAN BE DANGEROUS IF OPERATED IMPROPERLY

SO FOLLOW THESE



SAFETY INSTRUCTIONS



1. **Only the OPERATOR should be allowed near the machine.**
2. **NEVER STAND or allow anyone else to stand near the boring machine when rotating.**
3. **KEEP ALL GUARDS and shields in place while machine is running.**
4. **SHUT OFF ENGINE before leaving machine.**
5. **ALWAYS STOP engine before servicing machine.**
6. **REMOVE KEY or spark plug wire when leaving machine unattended**
7. **ALLOW ENGINE TO COOL before refueling**
8. **WEAR TIGHT FITTING CLOTHES when using boring machines and keep your hands, feet, and clothing away from moving parts.**
9. **KNOW what is down there before you bore. If necessary, get clearance from the phone company, power company, community water and sewer departments.**
10. **MOVE SLOWLY when starting to bore.**
11. **USE THE BUDDY SYSTEM Do not work alone in isolated areas**

*** SPECIAL CAUTION ***

12. **ALWAYS, ALWAYS, ALWAYS stay at the controls of the machine. You may have to stop suddenly to avoid danger. Staying at the controls will also keep you away from the dangerous part of the machine.**

PLEASE observe these instructions. They are considered common sense by professional boring contractors. There is just no substitute for a careful, safety minded operators SERIOUS INJURY OR DEATH COULD RESULT FROM FAILURE TO FOLLOW THESE SUGGESTIONS.

PRAIRIE DOG BORING MACHINE

NO REGISTRATION (WARRANTY) CARD IS NECESSARY TO OBTAIN WARRANTY ON PRAIRIE DOG BORING MACHINE. FILL IN THE REQUIRED INFORMATION AND REQUIRED INFORMATION AND RETAIN FOR YOUR RECORDS.

Prairie Dog Boring Machine: Serial No. _____ Model No. _____
Dealer Purchased from: _____ Date: _____

If warranty service is needed, contact your nearest authorized dealer or Prairie Dog Boring Equipment , Inc. For prompt attention our service department will need to know the trouble experienced and the total number of hours the boring machine has been operated. If you differ with the decision of our service department on warranty claim, ask your service department to submit all supporting facts for our review. If Prairie Dog Boring Equipment, Inc. decides that your claim is justified, you will be fully reimbursed for those items accepted as defective.

To avoid misunderstandings which might occur between boring machine owners and Prairie Dog Boring Equipment, Inc., we are listing causes of boring machine failures, where repair or replacement is NOT covered by Prairie Dog Boring Equipment, Inc. warranty.

ABUSE OR NEGLECT

1. Parts which are scored or broken because the machine was operated without sufficient lubricating oil or the power grade of oil are not covered by warranty. Check oil level at least every five hours, and refill when necessary. Change oil as recommended.
2. Damage or wear caused by dirt which enters the machine because of improper maintenance is not covered by warranty. Clean and re-oil regularly.
3. Warranty does not cover the adjustment of the machine unless the need for such repair is the result of defects in material or workmanship or both. Minor adjustment are NOT covered by warranty.
4. Broken parts which result from improper operation, overspending, or abuse in operation are covered by warranty.
5. Repair or adjustment of associated parts which are not of Prairie Dog Boring Equipment, Inc. manufacture will be covered by Prairie Dog Boring Equipment, Inc. warranty.
6. Only ORIGINAL PRAIRIE DOG BORING EQUIPMENT, INC. PART OR PARTS APPROVED PRAIRIE DOG BORING EQUIPMENT, INC. may be covered by warranty.

7. About improvements: Prairie Dog Boring Equipment, Inc. is continually striving to improve its products, therefore, reserve the right to make improvements or changes when it becomes practical to do so, without incurring any obligations to make changes or additions to the equipment sold previously.

WARRANTY IS AVAILABLE ONLY THROUGH SERVICE CENTERS OR SERVICE DEPARTMENT WHICH HAVE BEEN APPROVED AND AUTHORIZED BY PRAIRIE DOG BORING EQUIPMENT, INC.

Prairie Dog Boring Equipment, Inc.

Limited Warranty

To the original purchaser for 1 year from purchase date we will repair or replace at our option and free of charge any parts found to be defective under normal use and service resulting from defects in material and/or workmanship after an examination at our factory in Houston, Texas.

All transportation charges, damages, and loss incurred in connection with the transportation of all parts for inspection, replacement, or repair under this warranty shall be borne by the purchaser.

The express warranty contained herein shall not be applied to any boring machine attachment or part which has been altered in any way, nor shall such express warranty apply to any damages resulting from accident, misuse, or abuse, nor shall such express warranty apply to any damages resulting from failure to follow the Prairie Dog Boring Equipment, Inc. instruction for operation and maintenance of boring machine attachments and parts. Also, the express warranty contained herein shall not apply to engines, clutches, gearboxes, etc., which are not of our manufacture as they are covered by the design and specification changes on future machines without notice and without obligation on our part to present owners.

The foregoing express warranty is in lieu of all other express warranties. Prairie Dog Boring Equipment, Inc. neither assumes nor authorizes any other person, natural or corporate, to assume for it any other obligation or liability in connection with or with respect to any boring machine attachments or parts.

Prairie Dog Boring Equipment ,Inc. hereby disclaims any and all implied warranties, including, but not limited to warranties of merchantability and fitness for any particular purpose, if and to the extent, but only if and to the extent, that such disclaimer is not forbidden by any applicable law and any implied warranties, including, but not limited to which Prairie Dog Boring Equipment ,Inc. is so forbidden to disclaim by any applicable law, are limited to the periods of the express warranty as defined in the first paragraph of this warranty. Prairie Dog Boring Equipment ,Inc. shall in no event be liable for any consequential, incidental or special damages, and/or expenses.

SUGGESTED OPERATIONS & PROCEDURES

FOR MODEL 500RTW AND 900RTW

FIRST, LET ME SAY THAT THE OPERATION OF THE MACHINE BY VARIOUS OWNERS IN NUMEROUS SOIL CONDITIONS CAN VARY TRMENDOUSLY. THESE PROCEDURES ARE GIVEN AS GUIDELINES. MANY USERS FIND IT ASIER TO USE OTHER METHODS OF THEIR OWN MAKING.

THE HOLE

FIRST YOU NEED A TRENCH THAT CAN BE STRADDLED BY THE MACHINE. THIS MUST BE A MINIMUM 30' LONG FOR A 36" DEEP HOLE OR AS THE CUSTOMER DESIRES. (FIG 1-A)

ON THE OTHER SIDE YOU NEED A COME-OUT HOLE. THIS NEEDS TO BE A MINIMUM OF MINIMUM OF 6" WIDE AND 3' LONG AND THE DESIRED DEPTH FOR PIPE OR WIRE, ETC. TO BE INSTALLED. (FIG 1-B) DEEPER IF PULL PLUG IS TO BE USED.

THE LINE UP

THE MACHINE IS THEN PLACED OVER THE TRENCH AND LEVELED WITH THE BOTTOM OF THE TRENCH, OR GUIDE RODS IF NECESSARY. (FIG 1-C) A LEVEL IS PLACED ON THE FIRST JOINT INSTALLED IN THE MACHINE. (FIG 1-D) THE MACHINE IS ALSO ALIGNED TO COME OUT OF THE HOLE USING 2 STAKES OR A STRING AND THE FIRST JOINT IN THE MACHINE.

WATER

USING A COMMON GARDEN HOSE FROM AN EXISTING WATER SOURCE IS PERFERABLE. IF A WATER SUPPLY IS NOT AVAILABLE, WATER TANKS AND DRUMS WITH THE ADDITON OF A WATER PUMP THAT CAN MAINTAIN A WATER PRESSURE OF 35 TO 40 POUNDS IS ALL THAT IS NECESSARY. THE AMOUNT OF WATER NEEDED FOR YOUR SPECIFIC SOIL CONDITIONS CAN VARY, BUT IN NORMAL CONDITONS A 55 GALLONS DRIM OF WATER IS SUFFICIENT TO BORE 2" HOLE 30 FEET.

DRILLING

THE PILOT BITS IS INSTALLED ON THE FIRST PIPE JOINT. START THE ENGINE, ENGAGE THE CLUTCH, AND TURN THE WATER ON TO SEE IF THE PILOT BIT IS CLEAR OF ANY OBSTRUCTIONS.

THE MACHINE IS THEN PUSHED FORWARD 2" OR 3" THEN BACK 2" OR 3". THIS FORWARD & REVERSE ACTION WILL LET THE BIT FLUSH ITSELF AS YOU CONTINUE ADVANCING. WHEN DRILLING THERE SHOULD BE A SMALL AMOUNT OF WATER COMING BACK OUT OF THE HOLE AT ALL TIMES. (FIG 1-E) THIS TELLS THE OPERATOR HE HAS NOT CLOGGED THE BIT OR LOST CIRCULATION DUE TO AVOID IN THE EARTH. IF THE BIT IS FORCED TOO HARD AND CLOGS , THE ADVANCING CAN BE STOPPED FOR A FEW MOMENTS AND THE WATER WILL CLEAR THE BIT.

BACKREAMERING

WHEN THE PILOT IS THROUGH THE HOLE, REMOVE THE PILOT AND INSTALL THE BACKREAMER. ONLY ONE STEP IS REQUIRED. IF YOU NEED A 6" HOLE, YOU INSTALL A 6" BACKREAMER. NEVER TRY TO STAGE THE CUTTERS FROM 2" TO 4" TO 6" ETC. USE ONLY THE SIZE BACKREAMER NECESSARY TO ACCOMADATE YOUR PIPE. SCREW THE CABLE SWIVEL ONTO THE BACKREAMER IF REQUIRED, AND ATTACH THE CABLE TO IT. (FIG 1-F) THIS CABLE WILL BE USED TO PULL BACK THE PIPE OR PULL PLUG IF THE DIAMETER IS LARGE ENOUGH TO REQUIRE IT. BE SURE THE CABLE IS STRAIGHTENED OUT SO IT DOES'T TWIST.

WHEN DRILLING BE SURE NOT TO FORCE THE MACHINE. IT HAS MORE POWER THAN YOU NORMALLY NEED. BE SURE TO ADD ENOUGH WATER TO MAKE SLURRY WITH THE CONSISTENCY OF A THICK MALT. IF YOU RUN TOO FAST YOU WILL LEAVE BIG CHUNKS OF MATERIAL, RATHER THAN FINE ONES. IF YOU RUN WITH A SLOW BUT STEADY FORCE YOU WILL MIXUP THE MIXTURE LIKE A EGG BEATER BEATS UP

EGG. THE IS DESIRABLE FR TWO REASONS, ONE THIS MIXTURE KEEPS THE HOLE OPEN SO IT WILL NOT CAVE IN, AND TWO, IT ALLOWS THE PIPE, WIRE OR PULL PLUG TO BE PULLED BACK EASILY.

A WORD OF CAUTION

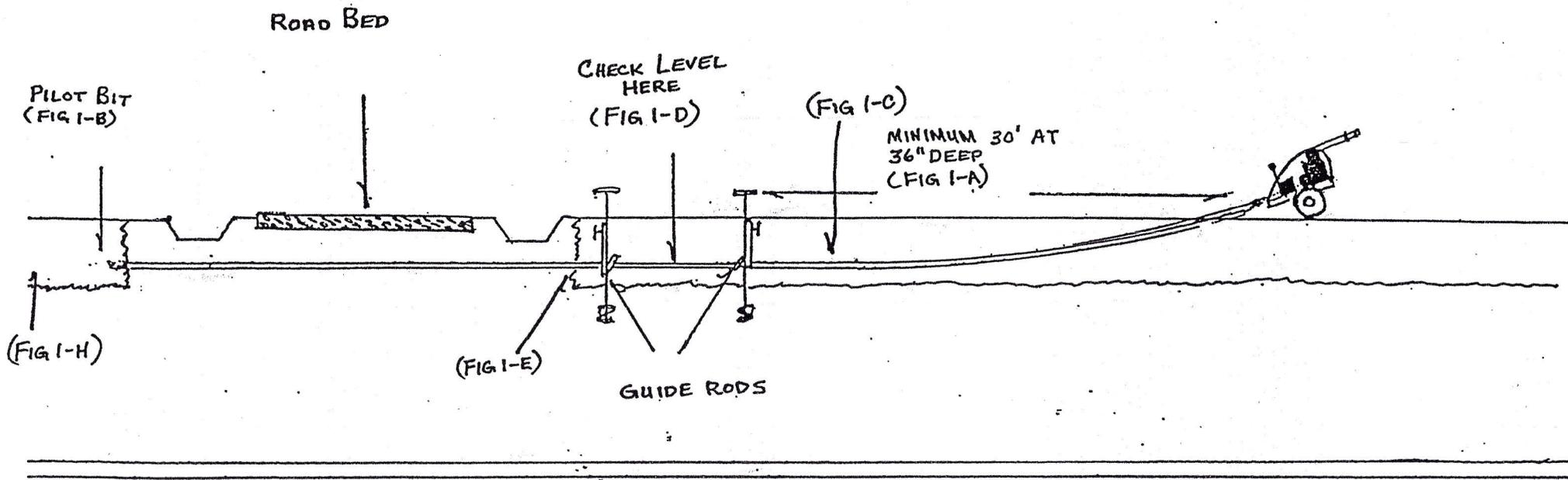
ONE THING TO REMEMBER, WHEN YOU BEGIN A JOB START EARLY AND TRY TO COMPLETE IT THE SAME DAY. **NEVER NEVER NEVER NEVER** LEAVE THE DRILL ROD IN THE HOLE FOR MORE THAN AN HOUR WHEN YOU HAVE STOPPED DRILLING. THE WATER WILL LEACH OUT OF THE SOIL, MAKING THE SOIL STICKY OR HARD AGAIN WHICH CAN CAUSE YOUR DRILL ROD TO SEIZE.

INSTALLING THE PIPE

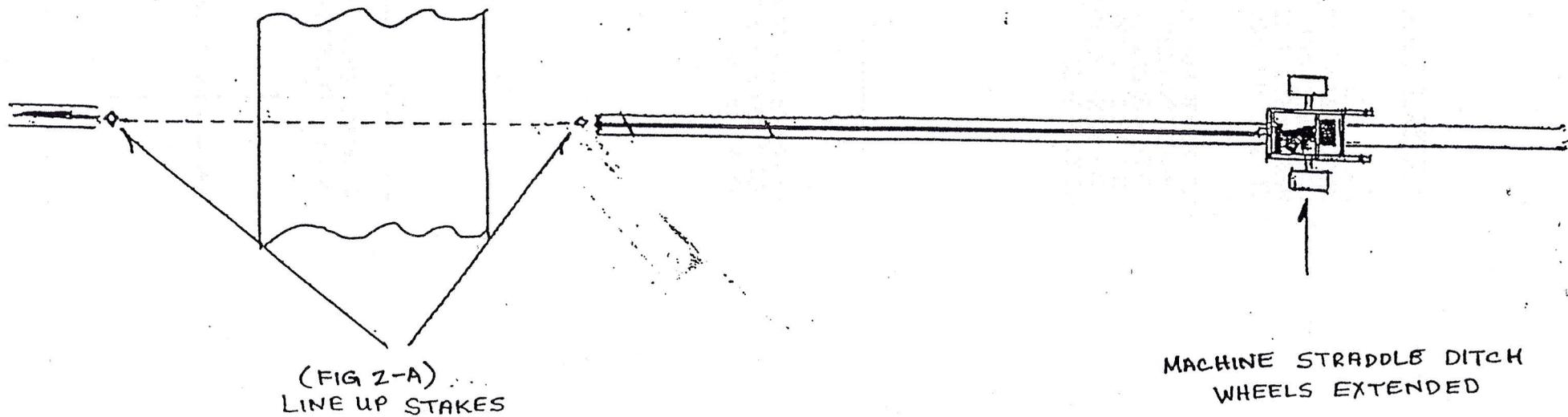
WHEN BORING SMALL HOLES OF 1" AND 2" IN DIAMETER, IT IS NOT NECESSARY TO USE A PULL PLUG OR SWAB. WHEN BORING BIGGER HOLES, THE PLUG IS PULLED BACK THROUGH THE HOLE WITH A CABLE ON EITHER SIDE, TO FORCE THE SLUDGE OUT OF THE HOLE. YOU CAN THEN ATTACH THE CABLE TO THE PIPE AND PULL IT THOUGH THE BORE PIT. THE JOB NOW COMPLETE.

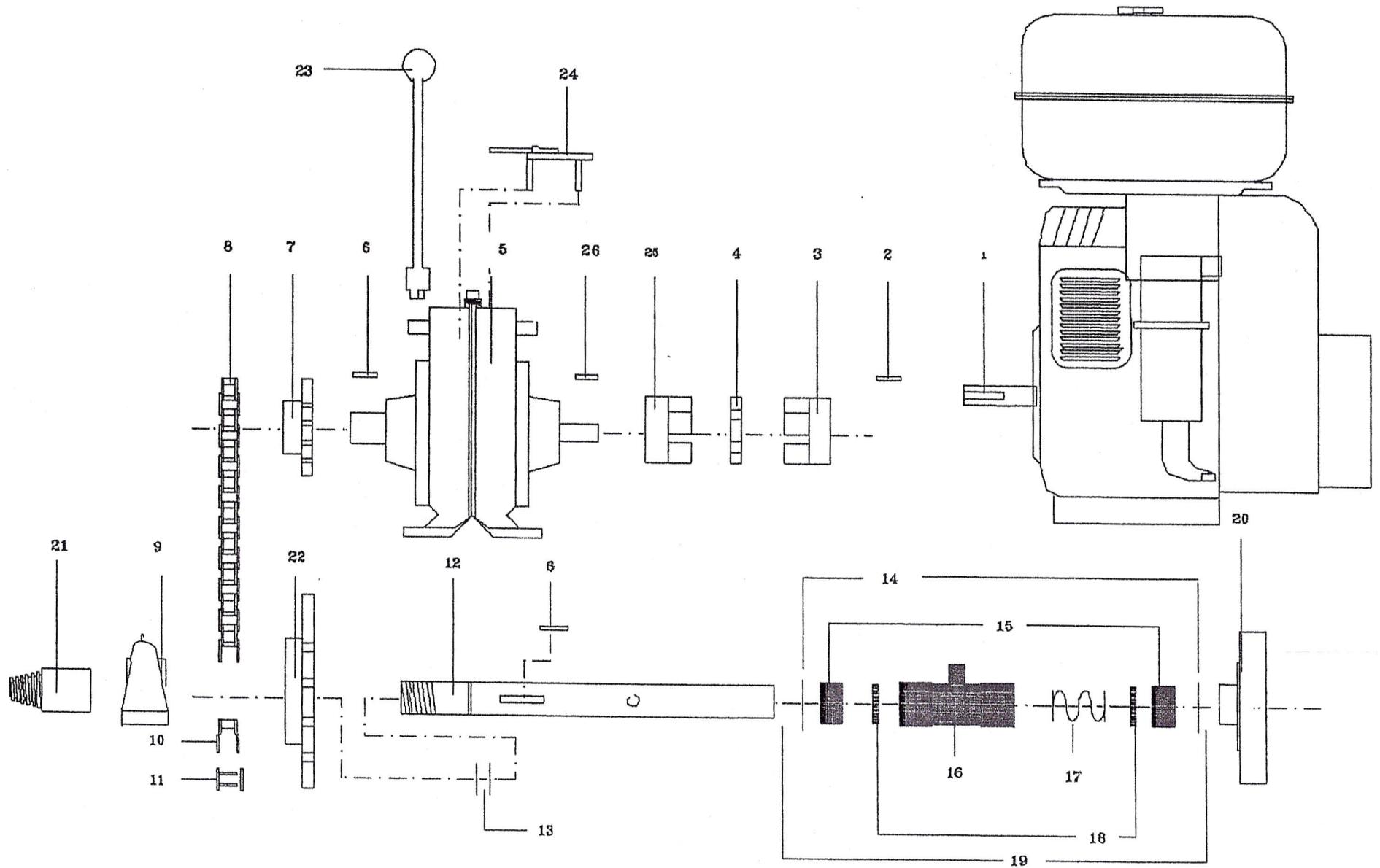
Prairie Dog Boring Equipment, Inc.
10006 Airline Drive
Houston, Texas 77037
281-448-8442 or 1-866-631-3786
Website: www.undergroundequip.com

SIDE VIEW



TOP VIEW





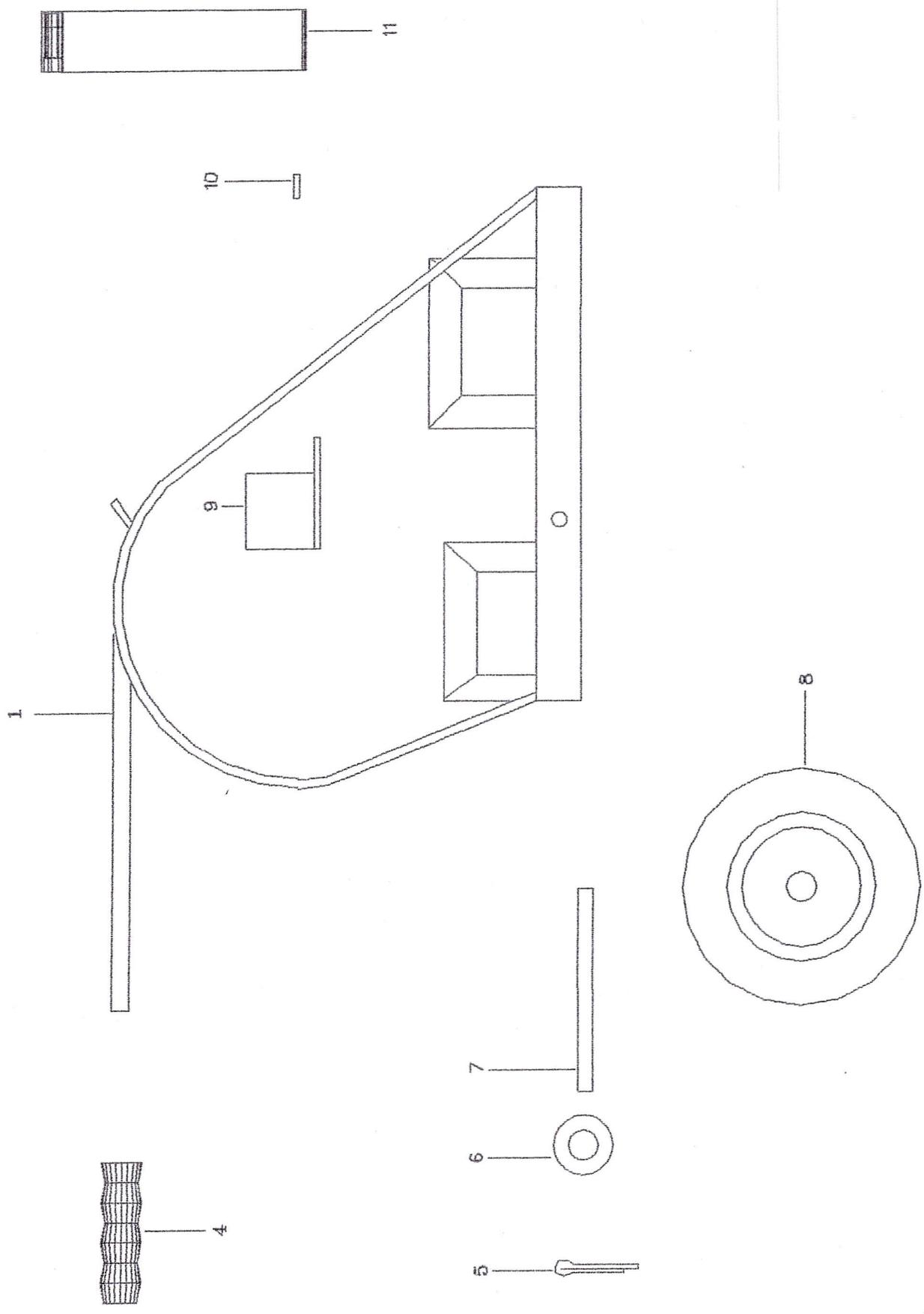
MODEL 900TW PART LIST

REFERENCE NUMBER	PART NUMBER	DESCRIPTION	QTY. REQ.
01	PDP1460-2	HONDA ENGINE	1
02	PDP971-2	KEY	1
03	PDP1494	COUPLER	1
04	PDP1495	SPIDER	1
05	PDP707	TRANSMISSION ASSY.	1
06	PDP971-2	KEY	2
07	PDP1416	SPROCKET	1
08	PDP1414	DRIVE CHAIN	1
09	PDP910	FRONT BEARING	1
10	PDP1412	OFFSET LINK	1
11	PDP1413	CONN. LINK	1
12	PDP1571	WATER SWIVEL SHAFT	1
13	PDP971-3	SNAP RING	2
14	PDP916-5	SNAP RING WATER SWIVEL	2
15	PDP916-2	BUSHING	2
16	PDP916-1	WATER SWIVEL BODY	1
17	PDP916-4	SPRING	1
18	PDP916-3	U CUP WATER SWIVEL	2
19	PDP916	WATER SWIVEL ASSY.	**
20	PDP706	REAR BEARING	1
21	PDP1571-1	WATER SWIVEL ADAPTER	1
22	PDP1401	SPROCKET	1
23	PDP1305	HANDLE TRANS.	1
24	PDP1399	HINGLE LOCK	1
25	PDP1396	COUPLING	1
26	PDP718	KEY	1

*OPTIONAL EQUIPMENT

** ASSY/ INDIVIDUAL COMPONENT LISTED SEPARATE

*** AS REQUIRED



MODEL 900TW PART LIST

REFERENCE NUMBER	PART NUMBER	DESCRIPTION	QTY. REQ.
01	PDP1422RT	ENG. FRAME 900	1
02	PDP736	TIRE & WHEEL ASSY	2
03	N/A		
04	PDP903-1	HANDLE GRIP	2
05	PDP747	COTTER PIN	2
06	PDP748	FLAT WASHER	4
07	N/A		
08	PDP738-1	AXLE ASSY.	2
09	PDP1397	REAR GUARD	1
10	PDP1398-1	CHAIN GUARD CLIP	2
11	PDP1398	CHAIN GUARD	1

*OPTIONAL EQUIPMENT

** ASSY/ INDIVIDUAL COMPONENT LISTED SEPARATE

*** AS REQUIRED

REVERSING TRANSMISSION

1. WARRANTY

THE COMPANY'S PRODUCTS ARE GUARANTEED TO BE MADE OF THE FIRST CLASS MATERIAL, AND IN A SKILLFUL AND WORKMANLIKE MANNER, AND TO BE IN PERFECT RUNNING ORDER AT THE TIME THEY LEAVE THE FACTORY. THEY ARE GUARANTEED AGAINST ANY DEFECTIVE MATERIAL OR WORKMANSHIP, AND ANY PARTS PROVEN DEFECTIVE WITHIN TWELVE MONTHS FROM THE DATE OF SHIPMENT WILL BE REPLACED FREE OF CHARGE, F.O.B. OUR PLANT, ON RETURN OF SUCH DEFECTIVE PART TO THE COMPANY, TRANSPORTATION CHARGES PREPAID. NO PARTS, HOWEVER, SHALL BE RETURNED WITHOUT THE EXPRESS AUTHORIZATION OF THIS COMPANY SO TO DO.

THERE ARE NO WARRANTIES, EXPRESSED OR IMPLIED, EXCEPT SUCH WARRANTIES AS ARE DEFINITELY SET FORTH HEREIN. ANY PART OR PARTS MANUFACTURED ALTERED OR REPAIRED OUTSIDE THE FACTORY WITHOUT WRITTEN APPROVAL FROM THE FACTORY SHALL VOID ALL WARRANTIES SET FORTH HEREIN. UNDER NO CIRCUMSTANCES WILL THE COMPANY BE CHARGED FOR LABOR TO INSTALL PARTS FURNISHED UNDER WARRANTY UNLESS IT AGREES IN ADVANCE TO DO SO. SHIPPING CHARGES ON WARRANTY PARTS SHALL BE FOR THE ACCOUNT OF THE CUSTOMER UNLESS THE COMPANY AGREES IN ADVANCE TO PAY THEM.

THE COMPANY SHALL IN NO EVENT BE HELD LIABLE FOR ANY CONSEQUENTIAL DAMAGES OR OTHER DAMAGES OR DELAY CAUSED BY DEFECTIVE MATERIAL. EQUIPMENT AND ACCESSORIES, INCLUDING BEARINGS, NOT MANUFACTURED BY THE COMPANY ARE GUARANTEED ONLY TO THE EXTENT OF THE ORIGINAL MANUFACTURER'S GUARANTEE.

THE COMPANY RESERVES THE RIGHT TO IMPROVE ITS PRODUCTS THROUGH CHANGES IN DESIGN OR MATERIAL WITHOUT BEING OBLIGATED TO INCORPORATE SUCH CHANGES IN PRODUCTS OR PRIOR MANUFACTURE.

2. ADJUSTMENT

THE FORWARD AND REVERSE CLUTCH ARE ADJUSTED EXTERNALLY WITH THE SCREWS WHICH PROJECT FROM BOTH SIDES OF THE CASE. ADJUST ONE CLUTCH AT A TIME. LOOSEN THE JAM NUT. TURN IN THE ADJUSTING SCREW A FRACTION OF A TURN IF MORE TENSION IS DESIRED. TURN OUT THE ADJUSTING SCREW FOR LESS TENSION. TEST THE ADJUSTMENT BY MOVING THE OPERATING LEVER TOWARDS ITS RESPECTIVE ADJUSTING SCREW. TIGHTEN THE JAM NUT.

DO NOT TIGHTEN CLUTCHES EXCESSIVELY SINCE THIS ONLY INCREASES THE OPERATING EFFORT WITHOUT IMPROVING CLUTCH ACTION AND MAY RESULT IN DAMAGED BRAKE BANDS. OCCASIONALLY, DURING COLD WEATHER OPERATION, THE CLUTCHES MAY SLIP EVEN THOUGH CORRECTLY ADJUSTED, IN SUCH A CASE THE LUBRICANT MUST BE CHANGED TO A LIGHTER GRADE AS SPECIFIED IN LUBRICATION INSTRUCTIONS.

3. LUBRICATION

IMPORTANT: ALL GEARS ARE SHIPPED DRY FROM THE FACTORY. BE SURE TO ADD OIL BEFORE RUNNING. QUALITY OF OIL- USE A GOOD GRADE OF STRAIGHT MINERAL OIL--SAE 30 ABOVE 32°F SAE 10 BELOW 32°F. EXAMPLES OF RECOMMENDED LUBE OILS; ESSO LUBE MOTOR OIL; GULF LUBE MOTOR OIL; QUAKER STATE NON-DETERGENT MOTOR OIL (ML,MM), OR EQUIVALENT.

FILL UNIT WITH LUBRICATING OIL THROUGH THE BREATHER HOLE ON TOP UNIT OIL FLOWS FROM OIL LEVEL HOLE ON EITHER SIDE. SOMETIMES OIL WILL FOLLOW THE INTERNAL PARTS AND OIL FLOW OUT THE OIL LEVEL HOLES BEFORE THE UNIT IS FILLED WITH OIL TO LEVEL HOLES. BE SURE UNIT IS FILLED TO OIL LEVEL HOLE.

OIL CHANGE

1. THE TRANSMISSION SHOULD BE DRAINED AND REFILLED AFTER THE FIRST 30 HOURS OF OPERATION.
2. AFTER THIS A CHANGE OF OIL EVERY 100 HOURS OF OPERATION OR EVERY SIX MONTHS, WHICHEVER OCCURS FIRST, FOR UNITS OPERATING UNDER FAVORABLE CONDITIONS.

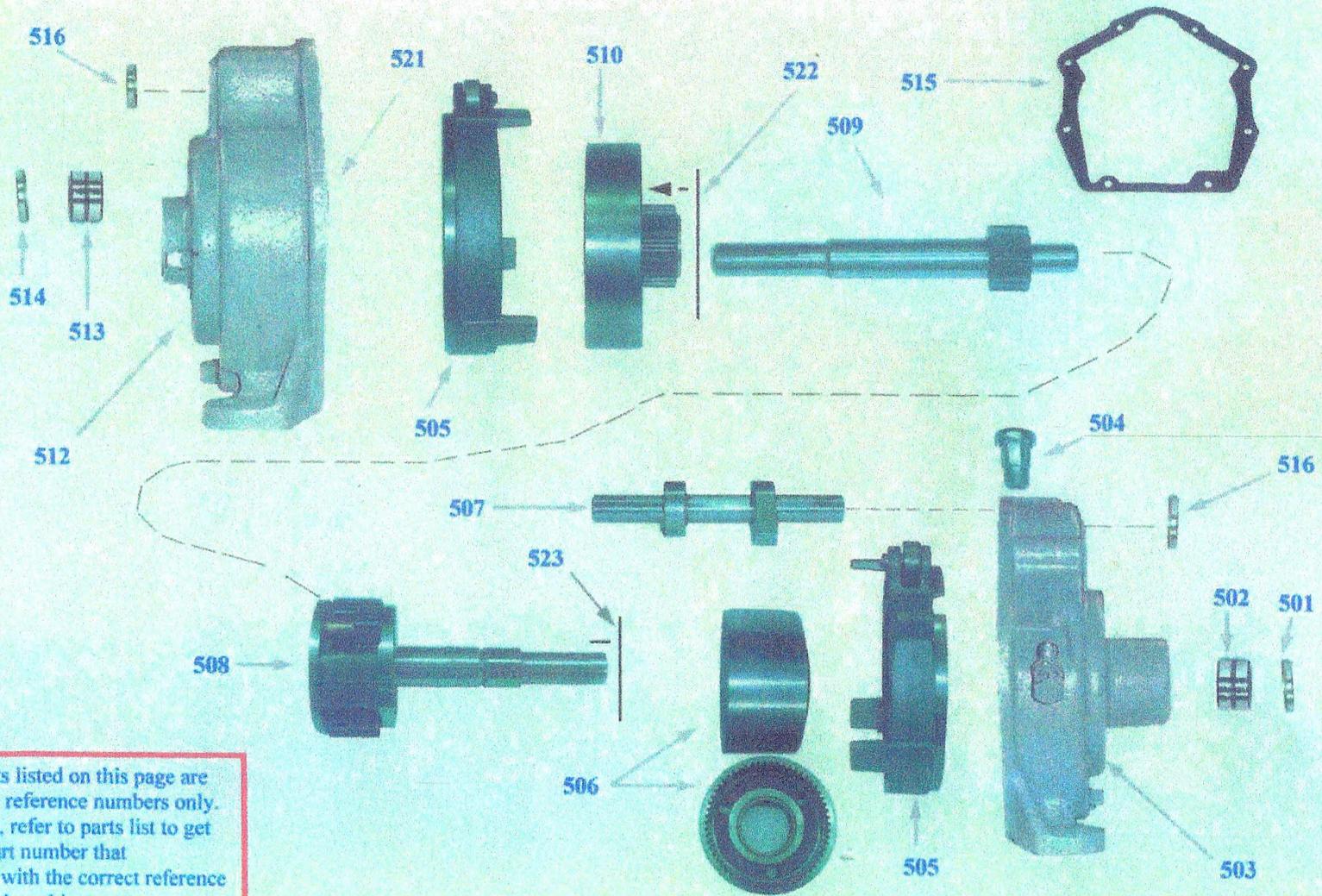
3. WHERE OPERATING CONDITIONS ARE SEVERE, SUCH AS RAPID RISE AND FALL IN TEMPERATURE OF THE GEAR CASE WITH ACCOMPANIED CONDENSATION ON THE INSIDE WALLS AND RESULTING FORMATION OF SLUDGE, OR WHERE OPERATION IS IN MOIST OR DUSTY ATMOSPHERES, OR IN THE PRESENCE OF THE CHEMICAL FUMES, IT MAY BE NECESSARY TO CHANGE THE OIL AT INTERVALS OF ONE TO THREE MONTHS.

4. REPLACEMENT OF PARTS

SHOULD IT BECOME NECESSARY TO REPLACE ANY GEAR DUE TO WEAR OR BREAKAGE, THE MATING GEARS MUST BE CAREFULLY EXAMINED FOR WEAR OR CRACKS. IF ANY DOUBT EXISTS AS TO THE CONDITION OF THE MATING GEAR, THEY SHOULD BE REPLACED.

IN GENERAL, ALL GEARING IS SOLD COMPLETE WITH BEARING AND BUSHING INSTALLED.

THE SINTERED BUSHINGS AND NEEDLE BEARINGS USED IN THIS TRANSMISSION REQUIRE SPECIAL ASSEMBLY AND SIZING TOOLS AS SPECIFIED BY THE RESPECTIVE MANUFACTURERS. THEREFORE, THE REPLACEMENT OF THESE PARTS SHOULD NOT BE ATTEMPTED UNLESS PROPER EQUIPMENT IS AVAILABLE.



****Note:** Parts listed on this page are identified by reference numbers only. For ordering, refer to parts list to get the PDP part number that corresponds with the correct reference number listed on this page.

Transmission Parts

<u>REF #</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
501	20186	OIL SEAL	1
502	10237-1	BEARING	1
503	30X-5106	OUTPUT HOUSING ASSEMBLY	1
503A	6267	BUSHING	1
503B	4527	ADJUSTMENT BOLT	1
503C	1703	JAM NUT	1
503D	2101	PIPE PLUG	2
504	31H-5105	BREATHER	1
505	5X-5104	BRAKE BAND ASSEMBLY	2
506	7AX-5106	GEAR DRUM ASSEMBLY	1
506A	6268	BUSHING	1
507	27AX-5106	CROSS SHAFT ASSEMBLY	1
507A	(10)-5104	CAM	2
507B	27A-5106	CROSS SHAFT	1
508	3X-5104	GEAR CAGE ASSEMBLY	1
508A	48X-5106	OUTPUT SHAFT ASSEMBLY	1
508B	(3)-5104	GEAR COVER	1
508C	9AX-5103	SHORT PINION ASSEMBLY	2
508D	9X-5103	LONG PINION ASSEMBLY	2
508E	6271	BUSHING	2
508F	6273	BUSHING	1
509	26-5109	INPUT SHAFT	1
510	8AX-5102	FLAT DRUM ASSEMBLY	1
510A	8X-5102	GEAR ASSEMBLY	1
510B	26A-5101	BUSHING	1
510C	6272	BUSHING	1
510D	51042	SNAP RING	1
512	30X-51027	INPUT HOUSING ASSEMBLY	1
512A	4527	ADJUSTMENT BOLT	1
512B	1703	JAM NUT	1
512C	2101	PIPE PLUG	1
513	10736	BEARING	1
514	2076	OIL SEAL	1
515	31A-5105	GASKET	1
516	20187	OIL SEAL	1
520	1228	KEY	2
521	8TF-5101	WASHER	1
522	8TR-5101	WASHER	1
523	8TR-5134	WASHER	1