

# MODEL 140EW

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

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.

## 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: **PRAIRIE DOG BORING EQUIPMENT, INC.**

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 improvements or changes when its becomes practical to do so, without incurring and 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.**

## **STANDARD OPERATING PROCEDURES FOR THE “PRAIRIE DOG ”**

WE CONGRATULATE YOU ON THE EXPERT CHOICE OF BUYING THE “PRAIRIE DOG” PUP, WITH MODERATE CARE THE MODEL 140EW WILL PROVIDE YEARS OF PROFITABLE SERVICE.

FIRST MIX THE GASOLINE-OIL MIXTURE PROPERLY. IT TAKES JACHO CERTIFIED TWO CYCLE OIL AT RATIO OF 50:1, SIMILAR TO MOST STANDARD CHAIN SAWS. PRAIRIE DOG BORING EQUIPMENT, INC HIGHLY RECOMMENDS THE USE OF AN OFF THE SHELF CANNED PREMIX. THESE PREMIXED FUELS USE HIGH QUALITY SYNTHETIC OILS AND NON ETHANOL GAS.

MAKE SURE TO GREASE THE FRONT BEARING AT LEAST ONCE A DAY WHEN IN USE. ONE SHOT IS ENOUGH.

DO NOT SET ENGINE DOWN IN WATER AT ANYTIME.

NOT LET'S BEGIN TO BORE. ASCERTAIN WHAT DEPTH IS NECESSARY TO BORE UNDER THE SET OF OBSTRUCTIONS (SIDEWALK, DRIVEWAY, ROAD, APRON OR POSSIBLY A BUILDING) TO REACH THE COME OUT HOLE. THEN DIG A SMALL TRENCH TO THE DESIRED DEPTH. THE LENGTH OF THE TRENCH DEPENDS A GREAT DEAL ON THE LENGTH OF PIPE BEING USED TO BORE THE HOLE. IF BORING WHILE HOLDING THE “140EW” IT SHOULD BE HELD APPROXIMATELY WAIST HIGH SO THE NATURAL BEND OF THE PIPE WILL ALLOW THE LAST 3 TO 4 FEET TO LIE HORIZONTAL WITH THE GROUND. ALIGN THE BORE WITH A STAKE FROM ONE SIDE TO THE OTHER. THIS WILL HELP INCREASE YOUR ACCURACY. NOW, START THE ENGINE AND TURN THE WATER ON AT THE BALL VALVE JUST BEFORE STARTING TO BORE, MAKING SURE WATER IS COMING OUT THE BIT. NOW START THE BIT AT THE DESIRED DEPTH AND SLOWLY WALK IT FORWARD 2” TO 3”. THIS WILL HELP KEEP THE BIT CLEAR. WE RECOMMEND PUTTING A LEVEL ON THE PIPE OUTSIDE YOUR HOLE AT THIS TIME. IF IT IS LEVEL, THEN YOU MAY PROCEED AT THE DESIRED DEPTH TO THE COME OUT HOLE. MAKE SURE TO PROCEED SLOWLY ENOUGH, AND NOT ALLOW THE CLUTCH TO SLIP. FORCING THE MACHINE CAN MAKE THE CLUTCH SLIP AND CAUSE DAMAGE. YOU SHOULD ALWAYS HAVE A SMALL AMOUNT OF WATER COMING OUT THE ENTRY POINT. IF YOU NOTICE NO WATER OR SLURRY IS COMING OUT THE ENTRY HOLES, STOP AND CHECK FOR OBSTRUCTION IN THE PIPE OR BIT. ONCE THE OBSTRUCTION IS CLEARED, PROCEED AGAIN. IF NO WATER OR SLURRY IS COMING FROM THE ENTRY HOLE, IT'S POSSIBLE THE COME OUT HOLE HAS BEEN REACHED. IF SO, STOP THE WATER AT THE “140EW” AND PROCEED WITH COMPLETING THE JOB. A GOOD RULE OF THUMB IN MAINTAINING A GOOD DEGREE OF ACCURACY IS; FOR EVERY ONE FOOT OF DEPTH, MAINTAIN 20 FEET BEHIND THE ENTRANCE HOLE. (SEE FIG. 1 ) DO NOT FORCE THE PIPE TO BEND BY TRYING TO STAND UP RIGHT ALL

THE WAY TO THE ENTRY HOLE. PUTTING TOO MUCH STRESS ON THE NATURAL SWAY OF THE PIPE, AND NOT MAINTAINING PROPER DISTANCE BEHIND YOUR ENTRANCE HOLE WILL RESULT IN BENT PIPE OR AN INCREASE IN THE DEPTH OF THE BORE.

IN TOUGH SOIL CONDITIONS WITH MULTIPLE OBSTRUCTIONS, IT MAY BE ADVANTAGEOUS TO DIG A SMALL TRENCH LARGE ENOUGH FOR ONE PERSON TO GET AND LONG ENOUGH TO ALLOW SHORTER LENGTHS OF PIPE TO BE USED. WHEN PIT BORING, IT IS MORE OPERATOR FRIENDLY TO DIG A SMALL PIT LOWER THAN THE LAUNCHING PIT TO ALLOW THE SLURRY OR WATER TO RUN INTO THE SECONDARY PIT. THIS HELPS TO KEEP THE WORK AREA RELATIVELY DRY.

WHEN PIT BORING, SOME OF THE SAME PRINCIPLES AS BORING IN THE STANDING POSITION ARE STILL APPLIED. (SEE FIG-2) LINE YOUR MACHINE UP WITH A STAKE AT STARTING POINT ON TOP OF YOUR PIT AND ANOTHER AT THE DESIRED POINT AT THE COME OUT SIDE. PUT A LEVEL ON THE PIPE, IF IT IS LEVEL, THEN PROCEED WITH ASSURANCE THAT THE DESIRED COME OUT DEPTH WILL BE REACHED. IT IS ALSO A GOOD RULE TO LAY OUT ENOUGH SECTIONS OF PIPE BY YOUR TRENCH TO EQUAL THE DISTANCE OF YOUR HOLE TO BE BORED. THIS WILL HELP TO DETERMINE WHEN THE BIT SHOULD COME THROUGH THE COME OUT HOLE. NOW START THE ENGINE, AFTER PUTTING THE DRILL PIPE ON THE MACHINE THEN ADD YOUR 2" PILOT BIT TO THE END OF THE PIPE, TURN ON THE WATER AT THE BALL VALVE. ADVANCE THE MACHINE WHEN THE FIRST SECTION OF PIPE HAS ABOUT 6" TO 12" REMAINING OUT OF THE HOLE, TURN THE WATER SUPPLY OFF AT THE BALL VALVE. ATTACH YOUR NEXT SECTION OF PIPE AND MAKE SURE TO TURN THE WATER ON AT THE BALL VALVE, PROCEED WITH YOUR BORE UNTIL THE PIPE DISAPPEARS. ONCE YOUR BIT HAS TRAVELED TO THE COME OUT HOLE, SHUT THE WATER SUPPLY OFF. REMOVE THE BIT, AND INSTALL THE BACKREAMER IF REQUIRED. ONLY ONE STEP IS NECESSARY, INSTALL A 4" BACKREAMER NEVER TRY TO GO FROM 2" TO 3" TO 4". BE SURE TO ADD A CABLE SWIVEL TO THE END OF THE BACKREAMER SO THE WATER WILL PORT OUT THE HOLES AT THE CUTTING BLADES. WHEN ATTACHING A CABLE TO THE CABLE SWIVEL YOU CAN ESTABLISH A CABLE THROUGH THE HOLE. A CABLE CAN ALSO COME IN HANDY WHEN RUNNING INTO AN OBSTRUCTION THAT IS IMPOSSIBLE; SIMPLY PULL THE CABLE TO RETRIEVE THE TOOLING.

**WARNING\*WARNING\*WARNING\*WARNING\*WARNING\*WARNING\*WARNING\*WARNING**

THE "140EW" BORING MACHINE IS A WATER LUBRICATED BORING MACHINE. IT MUST NOT BE RUN DRY OR WITHOUT WATER. THIS BORING MACHINE WILL NOT BORE PROPERLY WITHOUT WATER AS A LUBRICANT. THE UNIT IS DESIGNED TO USE WATER TO KEEP THE IT CLEAN AND MAKE A SLURRY OF THE GROUND BORED TO FACILITATE A GOOD CLEAN HOLE. NO EXCEPTION. THANK YOU

# OPERATING INSTRUCTION

## ABOVE GROUND OPERATION

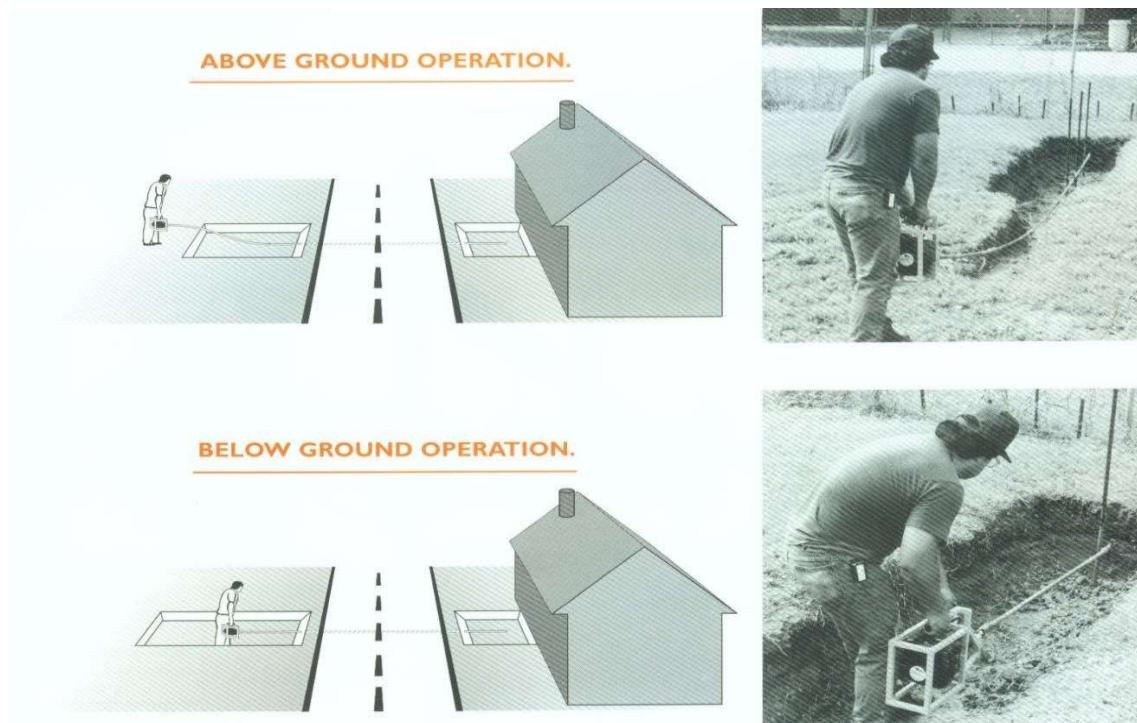
FIRST MEASURE THE DISTANCE TO BE BORED, BEING SURE THIS SECTION IS ALLOWED TO SAG TO A POINT EQUAL TO A DISTANCE FROM A TO B SO THAT THIS SECTION IS LEVEL. HOLDING THE "140EW" FIRMLY WITH BOTH HANDS ENGAGE THE THROTTLE, THE DRILL STEM WILL TURN AUTOMATICALLY. THE "140EW" HAS A CENTRIFUGAL CLUTCH, ALLOWING THE DRILL STEM TO ROTATE ONLY IF THE THROTTLE IS PRESSED. DO NOT FORCE!!!! IF THE DRILL STEM IS FORCED TOO HARD YOU MAY BEND THE DRILL STEM. ALSO IF THE DRILL STEMS STOP TURNING AND YOU CONTINUE TO PRESS THROTTLE YOU COULD BURN THE CLUTCH UP, FEED SLOWLY ALLOWING THE PILOT BIT TO MAKE ITS OWN WAY.

## BELOW GROUND OPERATION

THE MACHINE IS HAND HELD FIRMLY AND THE OPERATOR GETS IN THE DITCH, THE DRILL STEM IS ATTACHED IN THE LENGTH THAT HAD PREVIOUSLY BEEN SELECTED (THEY CAN BE CUT IN LENGTH 2", 3', 4' OR WHATEVER THE OPERATOR DESIRES FROM ½" PIPE. AFTER THE DRILL STEM SECTION HAS BEEN ATTACHED THE PILOT BIT IS INSTALLED ON TO THE DRILL STEM. THE OPERATOR THEN STARTS THE "140EW" AND HOLDS IT AS LEVEL AS POSSIBLE. HE THEN PUSHES THE THROTTLE TO START THE DRILL BIT TO TURNING THEN SLOWLY PUSHES THE DRILL ROD FORWARD UNTIL THE FIRST LENGTH OF ROD IS IN THE HOLE. HE THEN UNSCREWS THE ROD FROM THE "140EW" AND ADDS ON ANOTHER LENGTH OF DRILL STEM. THIS PROCESS IS REPEATED UNTIL THE BIT COMES OUT ON THE OTHER SIDE AS DESIRED.

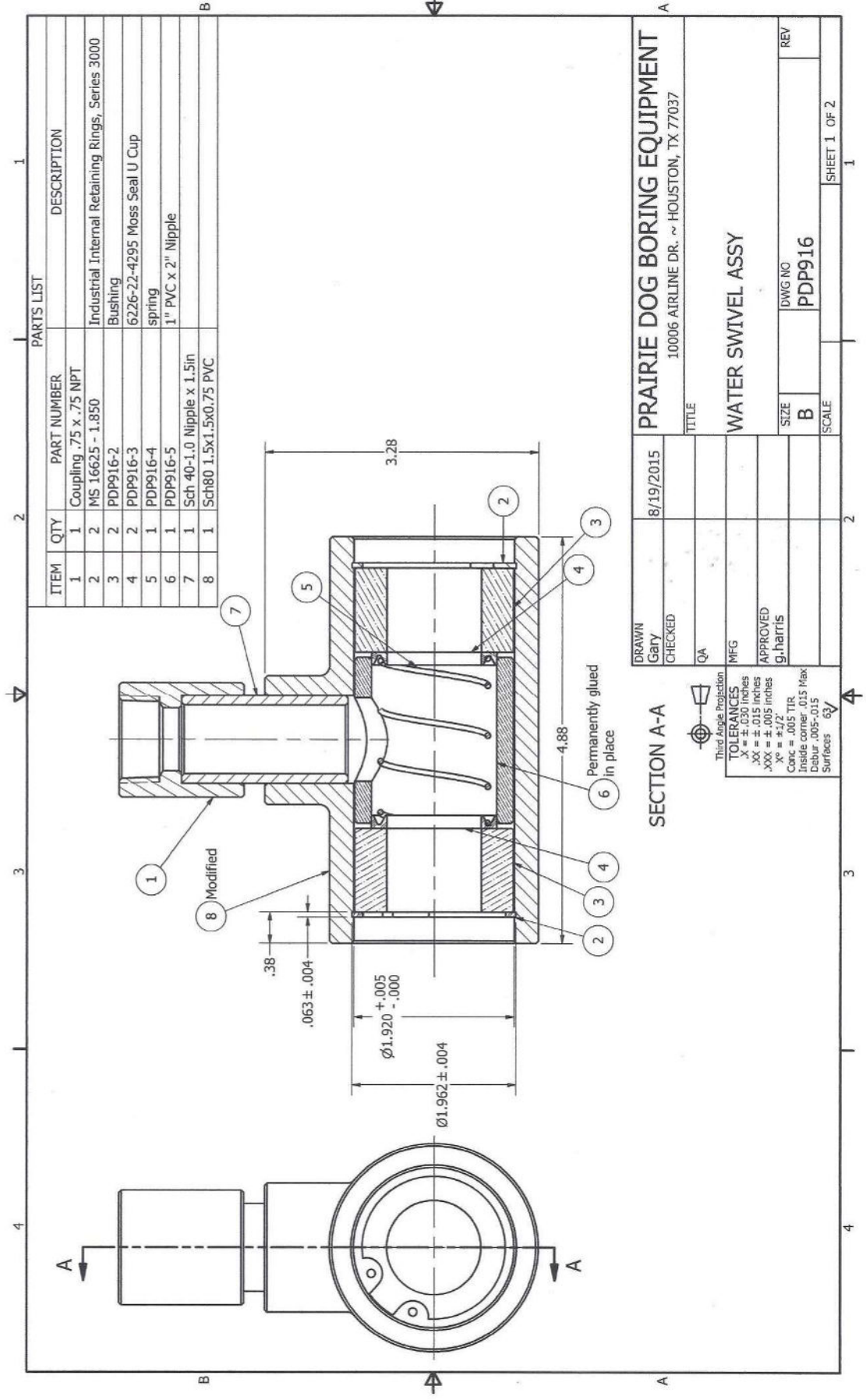
AFTER THE HOLE IS COMPLETE THE PIPE OR CABLE CAN BE PULLED BACK THROUGH THE HOLE.

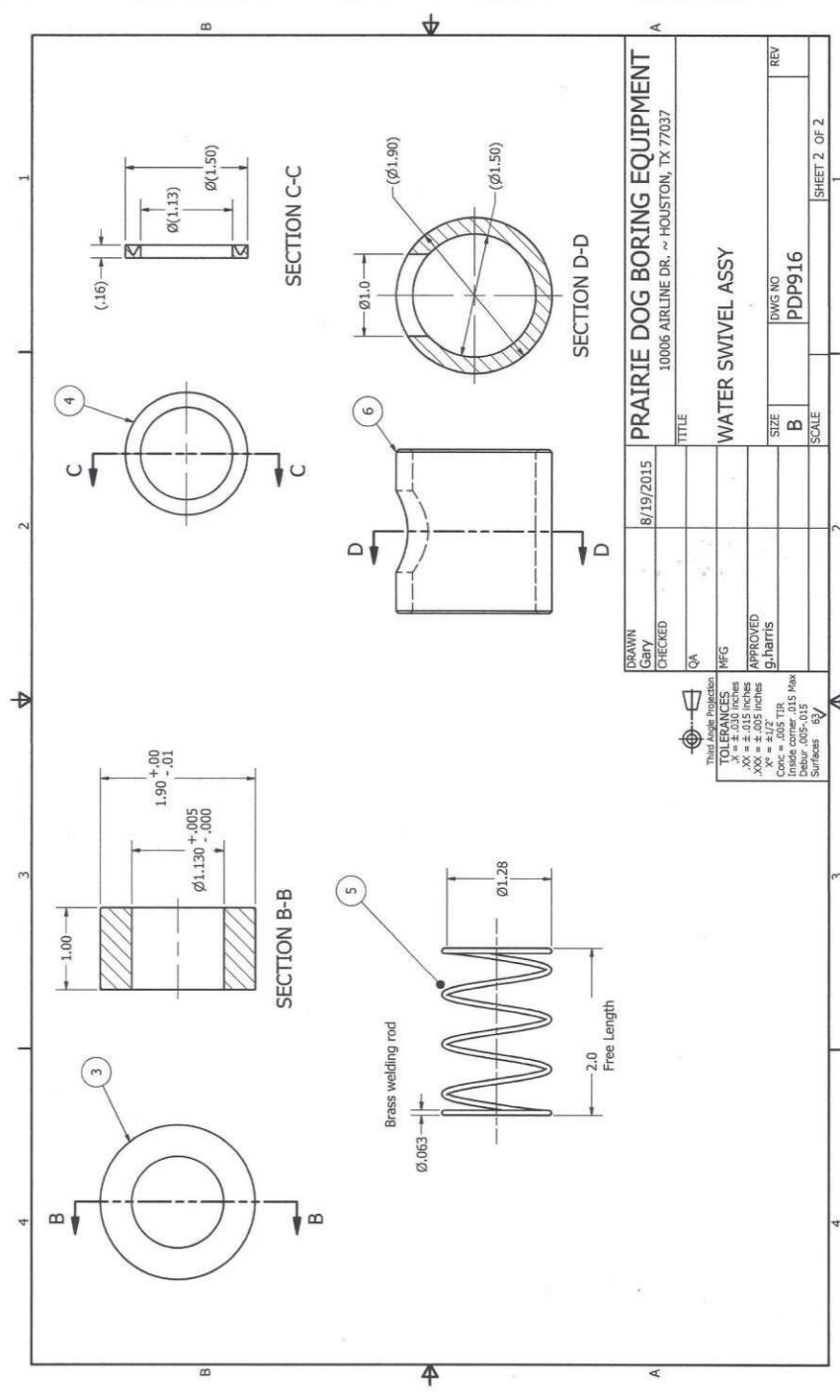
IT SHOULD BE NOTED THAT THE 140EW USES AN ENGINE AND TRANSMISSION THAT HAS A REVERSE LEVER. THE BORING MACHINE SHOULD NEVER BE USED WITH THE TRANSMISSION IN REVERSE. THIS WILL LIKELY CAUSE SOME PORTION OF THE DRILL ROD TO DISENGAGE AND POSSIBLY BE UNRECOVERABLE.



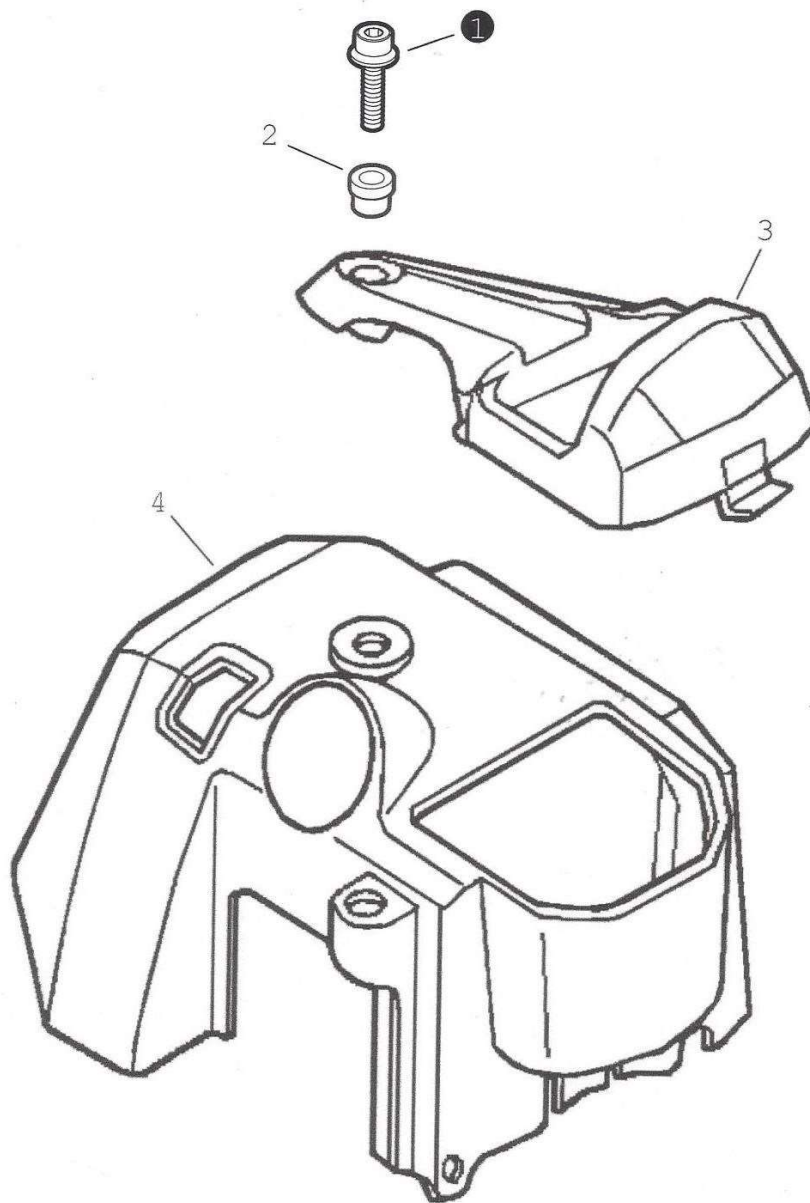




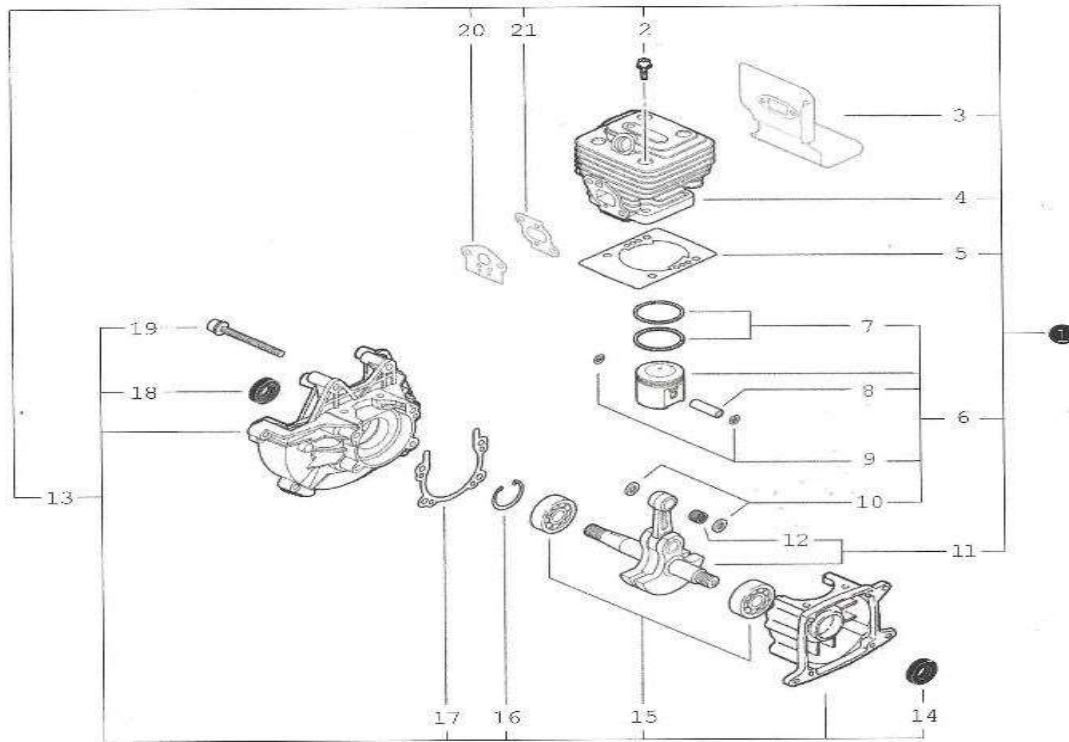




DRAWN Gary		8/19/2015	PRAIRIE DOG BORING EQUIPMENT		10006 AIRLINE DR., ~ HOUSTON, TX 77037	
CHECKED QA			TITLE		WATER SWIVEL ASSY	
DESIGNED MFG			APPROVED		DWG NO	
XX = ± .015 inches			g.harts		PDP916	
XX = ± .005 inches			SIZE		B	
XX = ± .005 inches			SCALE		SHEET 2 OF 2	
Conc = .005 TIR			REV			
Inside corner .015 Max						
Surface .005 ± .015						

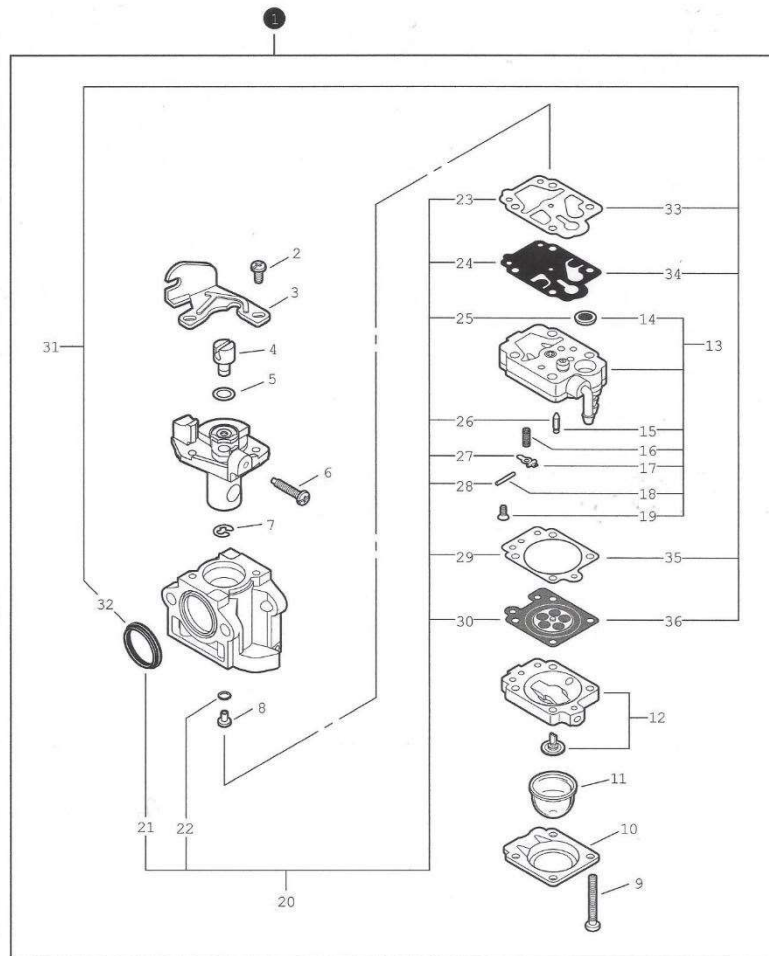


REF NO.	PART NUMBER	DESCRIPTION	QTY.
1	PDP8001002	SCREW-5X16	1
2	PDP8001003	COLLAR	2
3	PDP8001004	DUCT,AIR	1
4	PDP8001005	COVER, ENGINE	1



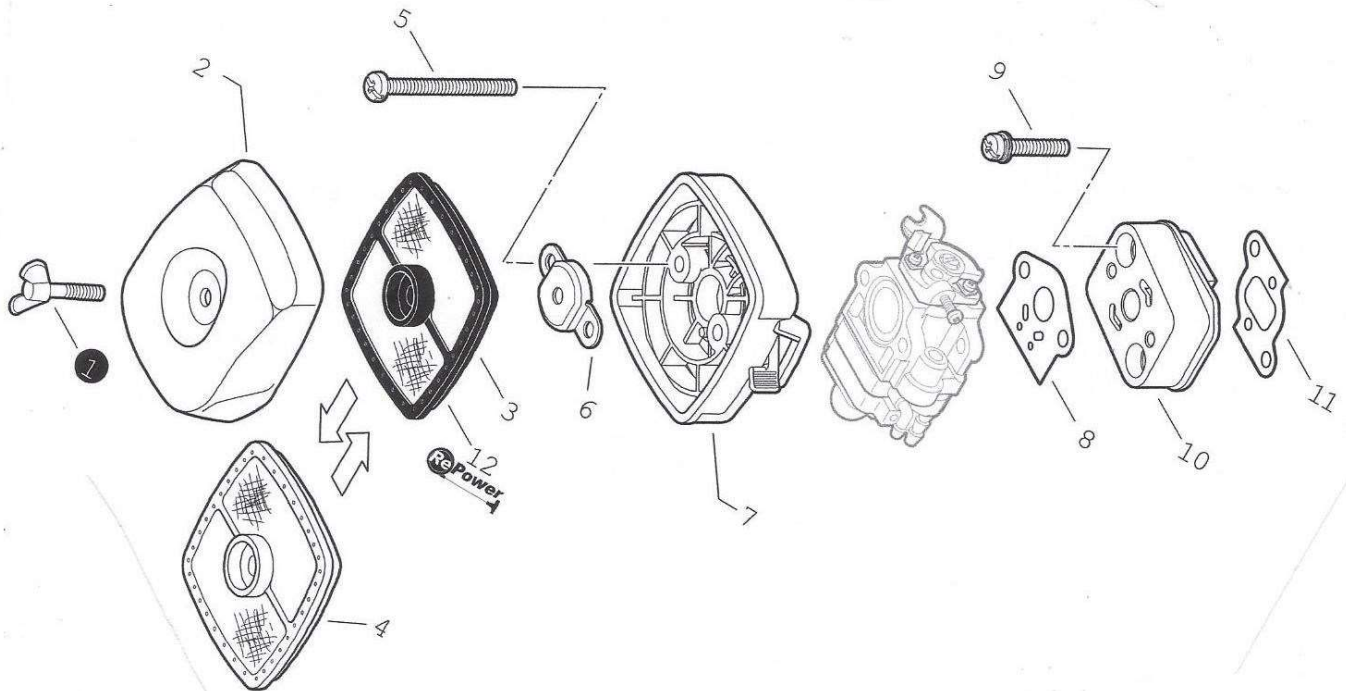
REF NO.	PART NUMBER	DESCRIPTION	QTY
1	PDP8002002	SHORT BLOCK	1
2	PDP8002003	SCREW-5X22	4
3	PDP8002004	SHEILD,EXHAUST	1
4	PDP8002005	CYLINDER	1
5	PDP8002006	GASKET, CYLINDER	1
6	PDP8002007	PISTON KIT	1
7	PDP8002008	RING, PISTON	2
8	PDP8002009	PIN, PISTON	1
9	PDP8002010	RING, RETAINING	2
10	PDP8002011	SPACER, PISTON	2
11	PDP8002012	CRANKSHAFT ASSY.	1
12	PDP8002013	BEARING, NEEDLE	1
13	PDP8002014	CRANKCASE KIT	1
14	PDP8002015	SEAL, OIL	1
15	PDP8002016	BEARING, BALL	2
16	PDP8002017	RING, RETAINING	1
17	PDP8002018	GASKET, CRANKCASE	1

18	PDP8002019	SEAL, OIL	1
19	PDP8002020	SCREW,5X25	4
20	PDP8002021	GASKET, INTAKE	1
21	PDP8002022	GASKET, INTAKE	1



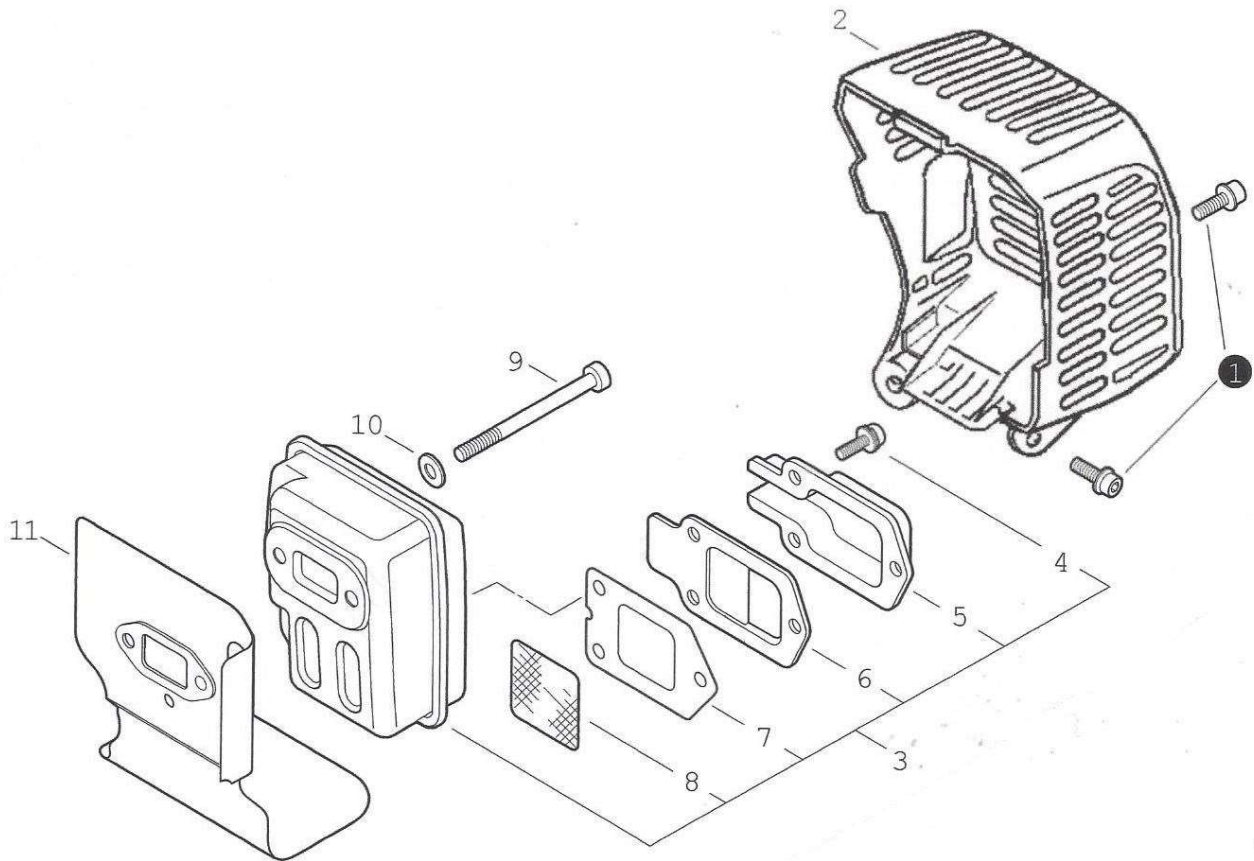
REF NO.	PART NUMBER	DESCRIPTION	QTY.
1	PDP8003001	CABURETOR ASSY.	1
2	PDP8003002	SCREW	2
3	PDP8003003	BRACKET, CABLE	1
4	PDP8003004	SWIVEL	1
5	PDP8003005	WASHER	1
6	PDP8003006	SCREW, IDLE ADJUST	1
7	PDP8003007	RING, RETAINING	1
8	PDP8003008	JET, MAIN	1
9	PDP8003009	SCREW, PUMP COVER	4
10	PDP8003010	RING, RETAINING	1
11	PDP8003011	BULB, PURGE	1

12	PDP8003012	PURGE BASE ASSY.	1
13	PDP8003013	PUMP BODY ASSY.(13-18)	1
19	PDP8003014	SCREW, METERING LEVER PIN	1
20	PDP8003015	REPAIR KIT (20-30)	1
31	PDP8003016	DIAPHRAGM/GASKET KIT (31-36)	1



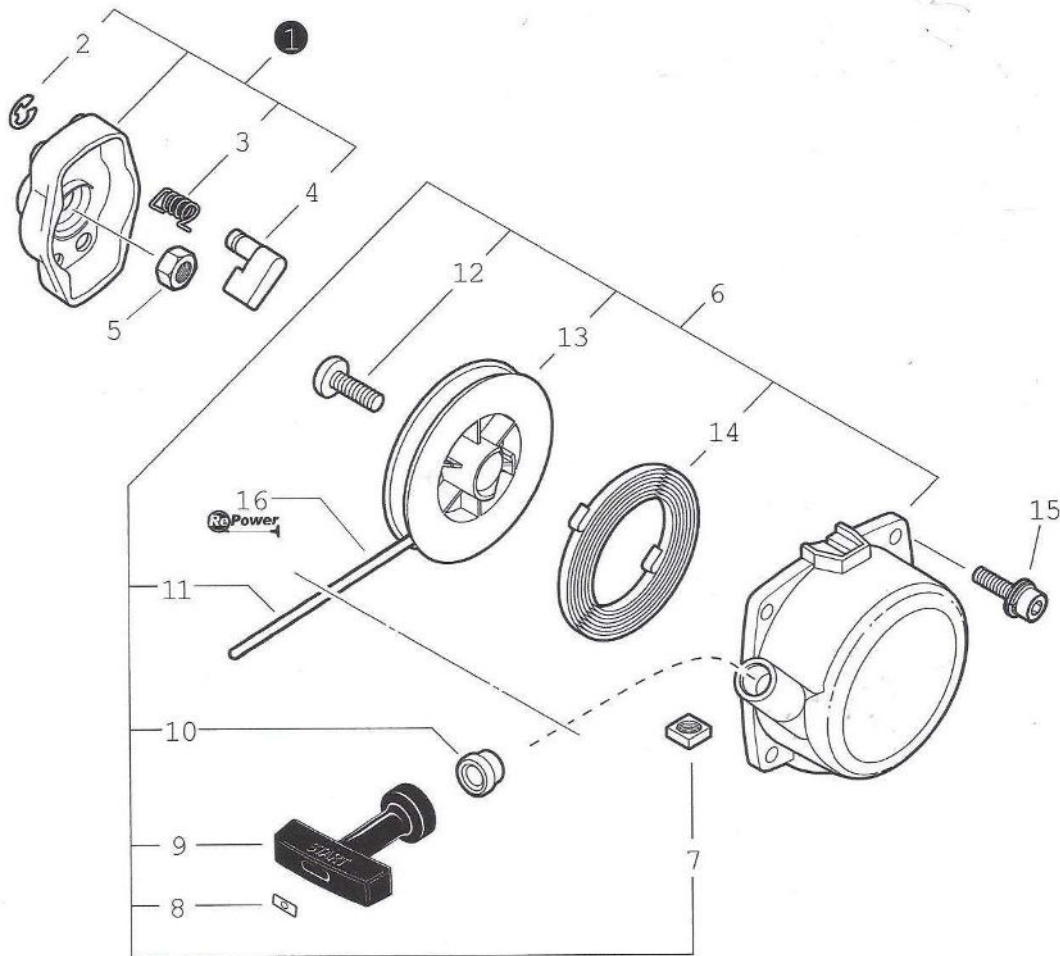
REF NO.	PART NUMBER	DESCRIPTION	QTY.
1	PDP8004001	THUMB SCREW	1
2	PDP8004002	COVER, AIR CLEANER	1
3	PDP8004003A	FILTER, AIR-DOUBLE LAYER	1
4	PDP8004003B	FILTER, AIR-SINGLE LAYER	1
5	PDP8004004	SCREW-5X60	2
6	PDP8004005	PLATE, PREVENT	1
7	PDP8004006	CASE, AIR CLEANER	1

8	PDP8004007	GASKET-INTAKE	1
9	PDP8004008	SCREW-5X25	2
10	PDP8004009	INSULATOR, INTAKE	1
11	PDP8004010	GASKET, INTAKE	1 12
	PDP8004011	TUNE-UP KIT	
	*		
12	PDP8004012	FILTER KIT	*



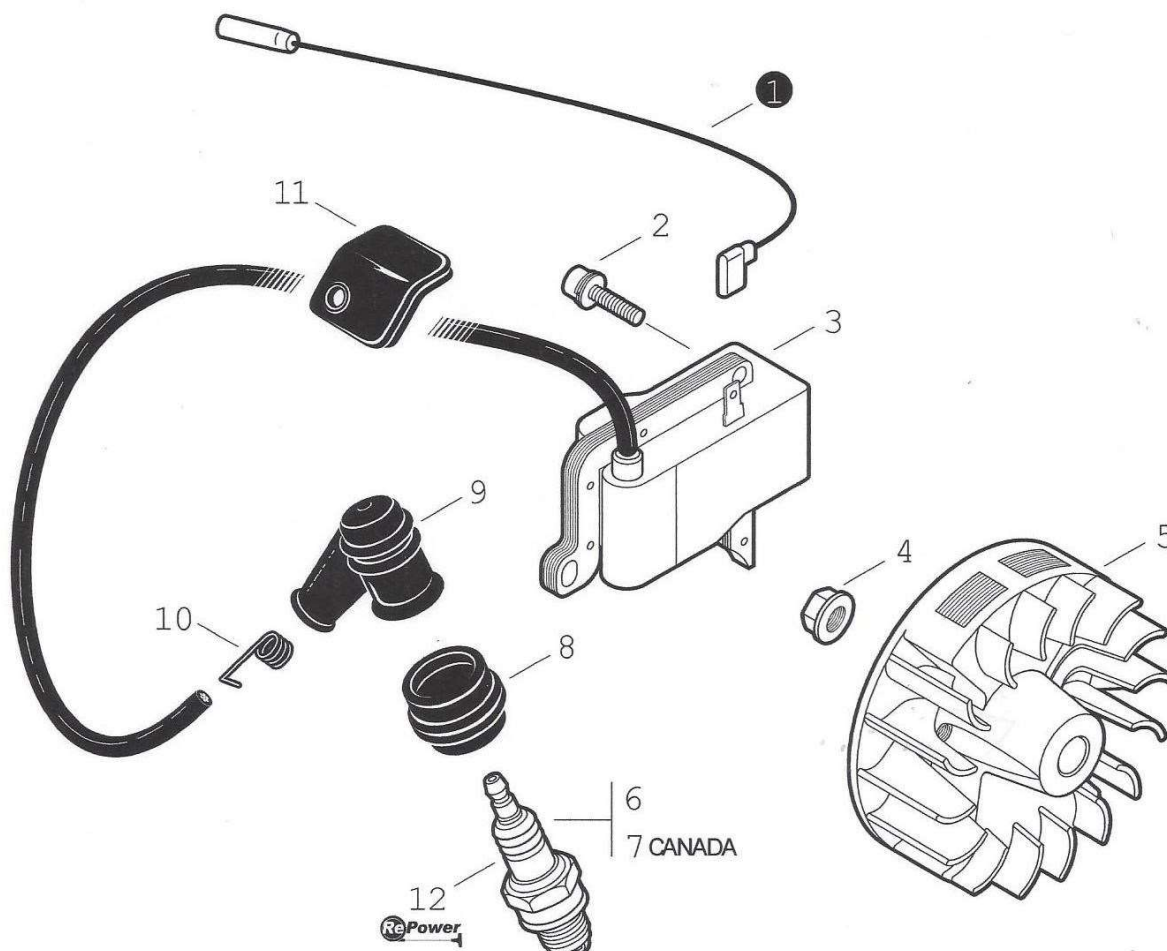
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1	PDP8005001	COVER,EXHAUST	1
2	PDP8005002	SCREW, 5X12	2
3	PDP8005003	MUFFLER ASSY.	1
4	PDP8005004	SCREW, 4X10	3

5	PDP8005005	GUIDE, EXHAUST-OUTER	1
6	PDP8005006	GUIDE, EXHAUST-INNER	1
7	PDP8005007	GASKET, EXHAUST	1
8	PDP8005008	SCREEN, SPARK ARRESTER	1
9	PDP8005009	SCREW,5X55	2
10	PDP8005010	WASHER-5	2
11	PDP8005011	SHIELD, EXHAUST	1



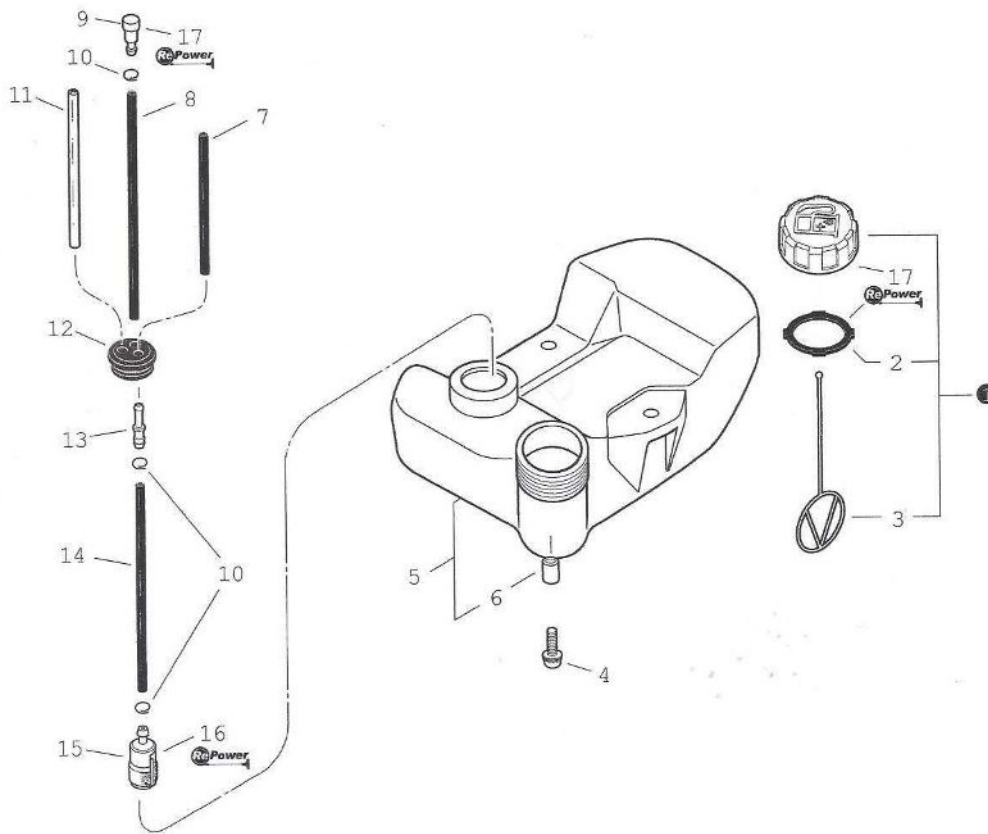
REF NO.	PART NUMBER	DESCRIPTION	QTY.
1	PDP8006001	STARTER PAWL ASSY.	1
2	PDP8006002	RING, RETAINING	2
3	PDP8006003	SPRING, RETURN	2
4	PDP8006004	PAWL, STARTER	2
5	PDP8006005	NUT	1
6	PDP8006006	STARTER ASSY.	1
7	PDP8006007	NUT	1

8	PDP8006008	RETAINER, ROPE	1
9	PDP8006009	GRIP, STARTER	1
10	PDP8006010	GUIDE, ROPE	1
11	PDP8006011	ROPE, STARTER	1
12	PDP8006012	SCREW	1
13	PDP8006013	REEL, ROPE	1
14	PDP8006014	SPRING, REWIND	1
15	PDP8006015	SCREW-4X14	4
16	PDP8006016	ROPE, STARTER	1



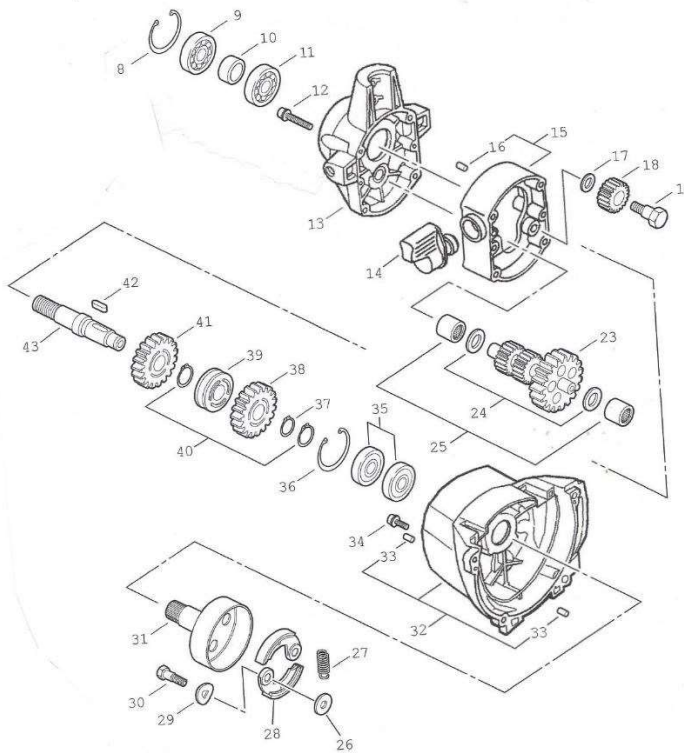
REF NO.	PART NUMBER	DESCRIPTION	QTY.
1	PDP8007001	LEAD, IGNITION	1

2	PDP8007002	SCREW-5X16	2
3	PDP8007003	COIL, IGNITION	1
4	PDP8007004	NUT	1
5	PDP8007005	FLYWHEEL	1
6	PDP8007006	SPARK PLUG	1
7	PDP8007007	SPARK PLUG	1
8	PDP8007008	COVER, SPARK PLUG CAP	1
9	PDP8007009	CAP, SPARK PLUG	1
10	PDP8007010	TERMINAL, SPARK PLUG CAP	1
11	PDP8007011	COVER, IGNITION	1
12	PDP8007012	TUNE-UP KIT	1



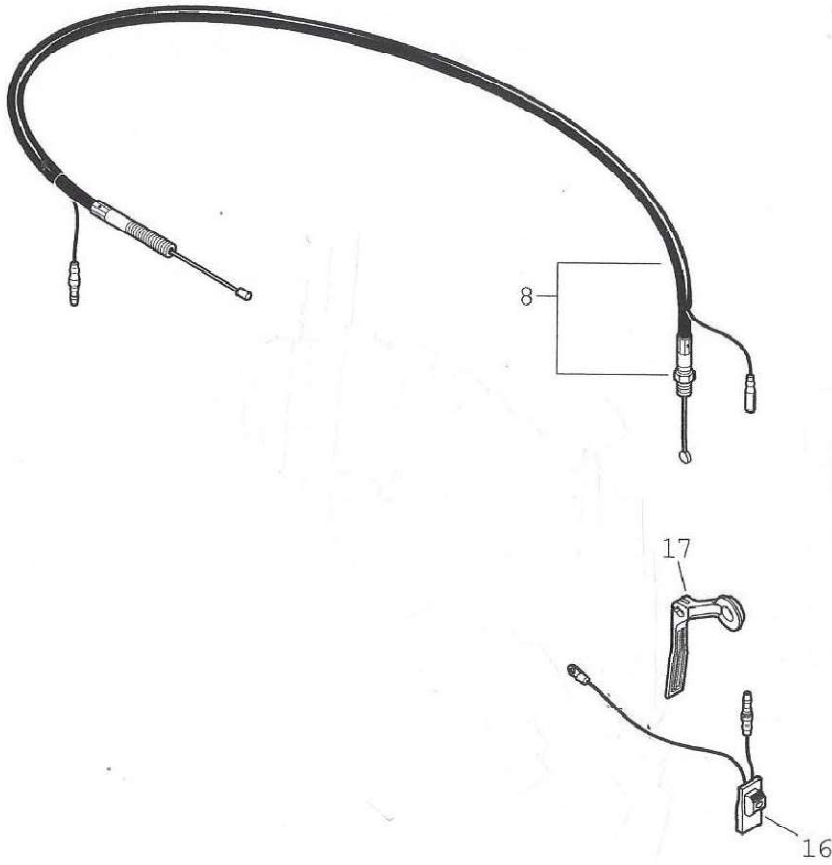
REF NO.	PART NUMBER	DESCRIPTION	QTY.
1	PDP8008001	CAP ASSY.	1
2	PDP8008002	GASKET	1
3	PDP8008003	CONNECTOR CAP	1
4	PDP8008004	SCREW-5X16	4
5	PDP8008005	FUEL TANK ASSY.	3
6	PDP8008006	SLEEVE	1
7	PDP8008007	PIPE	2
8	PDP8008008	PIPE	1

9	PDP8008009	VENT-FUEL TANK	1
10	PDP8008010	CLIP	3
11	PDP8008011	PIPE	1
12	PDP8008012	GROMMET	1
13	PDP8008013	CONNECTOR, FUEL PIPE	1
14	PDP8008014	PIPE	1
15	PDP8008015	FITLER,FUEL	1
16A	PDP8008016	TUNE UP KIT	*
16B	PDP8008017	FILTER KIT	*
17	PDP8008018	CAP AND VENT KIT	*



<u>REF NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
8	PDP8009001	RING, RETAINING	1
9	PDP8009002	BEARING, BALL	1
10	PDP8009003	COLLAR	1
11	PDP8009004	BEARING, BALL	1
12	PDP8009005	SCREW-5X55	4
13	PDP8009006	CASE, GEAR	1
14	PDP8009007	LEVER, CLUTCH	1
15	PDP8009008	GEAR CASE ASSY.	1
16	PDP8009009	PIN, LOCATING	2
17	PDP8009010	WASHER	1
18	PDP8009011	GEAR, SPUR	1
19	PDP8009012	BOLT, SHAFT	1
20	PDP8009013	BOLT-10X15	1
23	PDP8009014	GEAR ASSY.	1

24	PDP8009015	WASHER		2
25	PDP8009016	BEARING, NEEDLE	2	
26	PDP8009017	WASHER		2
27	PDP8009018	SPRING, CLUTCH		1
28	PDP8009019	SHOE, CLUTCH		2
29	PDP8009020	WASHER, SPRING	2	
30	PDP8009021	BOLT, SHAFT		2
31	PDP8009022	DRUM, CLUTCH		1
32	PDP8009023	FAN CASE ASSY.		1
33	PDP8009024	PIN, LOCATING		4
34	PDP8009025	SCREW-5X18		4
35	PDP8009026	BEARING, BALL		2
36	PDP8009027	RING, RETAINING	1	
37	PDP8009028	RING, RETAINING	1	
38	PDP8009029	GEAR, SPUR		1
39	PDP8009030	CAM, CLUTCH ADJUSTER		1
40	PDP8009031	RING, RETAINING	2	
41	PDP9003032	GEAR, SPUR		1
42	PDP9003033	KEY-4X16		1
43	PDP9003034	SHAFT, GEAR		1



REF NO.	PART NUMBER	DESCRIPTION	QTY.
8	PDP80010001	CONTROL CABLE ASSY.	1
16	PDP80010002	IGNITION SWITCH ASSY.	1
17	PDP80010003	TRIGGER, THROTTLE	1