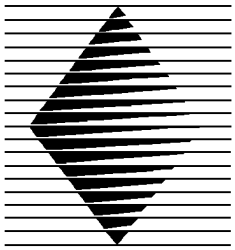

DIAMOND
PRODUCTS

CONCRETE SAW
PARTS LIST
OPERATOR MANUAL

MODEL
HDS60 RING SAW

June 2011 (Rev.2)

Part No: 1802010

Proposition 65
State of California

Warning !

Engine exhaust and some its constituents are known to the State of California to cause cancer, birth defects, and/or other reproductive harm.

Notification of Spark Arrester Requirement for State of California

It is a violation of Section 4442 or 4443 to use or operate the engine on any forest-covered, brush-covered, or grass-covered land unless the engine is equipped with a spark arrester, as defined in Section 4442, maintained in effective working order or the engine is constructed, equipped, and maintained for the prevention of fire pursuant to Section 4443.

Safety Precautions

Operate the HDS60 DragonSaw Hydraulic Ring Saw according to this manual. Failure to comply with and understand the following safety, operations, and maintenance instructions can result in serious injuries and/or death. All operators must be properly trained or supervised by experienced personnel prior to using these saws and should understand the risks and hazards involved. Service and repair of the saw must be done by trained personnel only. Diamond Products discourages improper or unintended saw usage and cannot be held liable for any resulting damages.

Saw modifications must only be made by the manufacturer to ensure safety and design. Any modifications made by the owner(s) are not the responsibility of Diamond Products and void all saw warranties if a problem arises as a result of the modification.

Refer to the HDS60 Parts List in this manual for additional information and part diagrams. Prior to operating, record the saw's serial number, invoice number and the date of purchase.

Notice: The information in this manual may be updated at any time!

Safety Alerts

⚠DANGER
Serious injuries and/or death will occur if these instructions are not followed.

⚠WARNING
Serious injuries and/or death could occur if these instructions are not followed.

⚠CAUTION
Mild and/or moderate injuries could occur if these instructions are not followed.

Respiratory hazards

⚠WARNING
Concrete cutting produces dust and fumes known to cause illness, death, cancer, respiratory disease, birth defects, and/or other reproductive harm. Safety protection techniques include, but are not limited to:

- Wearing gloves.
- Wearing safety goggles or a face shield.
- Using approved respirators.
- Washing work clothes daily.
- Using water when wet cutting to minimize dust.
- Washing the hands and face prior to eating/drinking.

For additional safety and self-protection information contact your employer, the Occupational Safety and Health Administration (OSHA), and/or The National Institute for Occupational Safety and Health (NIOSH).

General Safety

- Read and understand all of the safety, operations, and maintenance instructions provided in this manual prior to operating or servicing the saw.
- Keep saw components clean and free of slurry, concrete dust, and debris.
- Inspect all hoses prior to operating the saw. Clean, repair, or replace damaged components.
- Repair the saw immediately when a problem arises.
- Replace saw decals if unreadable.
- Dispose of all hazardous waste materials according to city, state, and federal regulations.
- Always have a phone nearby, and locate the nearest fire extinguisher and first aid kit prior to operating the saw.
- Operate the saw wearing flame resistant clothing.
- Always wear safety glasses when removing retaining rings.
- Persons under the statutory age limit should not operate the saw.
- Keep all body parts away from rotating machinery.
- Replace all guards and access panels (unless stated otherwise) prior to operating the saw.
- Always pivot guards fully to avoid serious injuries.

Precautions

- DO NOT drop equipment, supplies, tools, etc., when handling to help prevent injuries.
- DO NOT lift and carry equipment, supplies, tools, etc., that are too heavy and/or cannot be lifted easily.
- DO NOT operate the saw without using the appropriate safety equipment required for the work task.

- DO NOT operate or service the saw with clothing, hair, or accessories that can snag in the machinery, which could lead to serious injuries or death!
- DO NOT operate the saw using attachments not associated with or recommended for the saw.
- DO NOT operate the saw around combustible materials or fumes to prevent fires/explosions.
- Do not operate the saw with anyone near the work area or within the direct line of the blade.
- DO NOT operate the saw until all unnecessary materials have been removed from the work area.
- DO NOT operate the saw with loose nuts, screws, and bolts.
- DO NOT operate the saw when ill or fatigued.
- DO NOT operate the saw under the influence of drugs and/or alcohol.
- DO NOT operate the saw on a slippery or uneven surface.
- DO NOT cut concrete without guards.
- DO NOT service the saw with the motor running

Blade Safety

- Always use diamond blades manufactured specifically for the HDS60 saw.
- Never cut dry. Without an adequate water supply to properly lubricate the blade, the blade will warp, causing damage to the saw and/or serious injury to the operator.
- Inspect all blades prior to usage and discard damaged blades. Clean dirty blades as necessary.
- DO NOT install or remove a blade with the motor running.
- Keep all body parts away from rotating blades.
- Inspect the drive and idler wheels for damage, wear, and cleanliness. Clean or replace dirty/damaged components immediately.
- DO NOT expose yourself or anyone else to the direct line of the blade when operating the saw.

- Always use an appropriate size blade and the correct blade type based on the cutting task and the type of material being cut.
- The blade must always be fit correctly on the drive wheels. Failure to do so can result in damage to the saw and/or serious personal injury.

- Wear gloves and be alert to the surrounding environment when handling blades.
- When installing the blade, always fit the groove in the blade to the main drive wheel.
- DO NOT exceed the blade's maximum recommended speed when cutting. Excessive blade speeds can cause blade breakage, resulting in serious injuries and/or death!
- DO NOT use damaged blades when cutting to avoid harming yourself, others, or the saw.

Blade Guard Safety

- DO NOT operate the saw with the blade guard removed.
- Always inspect the blade guard prior to operating the saw.
- Replace damaged components immediately.
- DO NOT install or remove the blade guard with the saw running.

Cutting Safety

- The direct work area must be checked prior to cutting for buried or imbedded electrical, gas or water lines that could be damaged and/or cause personal injury while cutting.
- Turn off all electricity, gas, and water around the direct work area prior to cutting.
- DO NOT expose yourself or anyone else to the direct line of the blade when operating the saw.

- DO NOT allow any person, animal, and/or object in and around the work area while cutting.

Technical Information

Weight (without blade) ---------- 29.8 lbs. / 12.5 kg

Width ---------- 10-1/4 in. / 260 mm

Height (without the blade) ---------- 19 in.. / 483 mm

Length (without the blade) ---------- 26 in. / 660 mm

Power Requirement ---------- Hydraulic

Maximum flow ---------- 8 GPM / 30 l/min.

Maximum pressure ---------- 2500 PSI / 172.5 bar

Maximum blade diameter ---------- 20 in. / 510 mm

Maximum cutting depth with 16" blade ----- 12 in. / 300 mm

Maximum cutting depth with 20" blade ----- 16 in / 407 mm

Cooling of blade ---------- Water cooled only (no dry cutting allowed)

Troubleshooting

Saw will not start turning ---------- Confirm power supply is on and hoses are connected correctly.
Accumulation of slurry preventing the saw from turning, clean drive wheels.
Seized blade guide rollers, replace.

Sparks coming from the side of the blade while turning ---------- Inadequate water flow or pressure, check water lines/water supply.
Clogged water injection plate.

Blade turning too slow ---------- Inadequate hydraulic flow, check power supply.
Seized blade guide rollers.

Blade loose ---------- Re-set guide bearing cover

Gearbox is hot ---------- Not enough oil in gearbox.
Too much oil in gearbox.
Water in oil.
Blocked case vent.

On/Off handle sticking ---------- Broken plunger o-ring.
Bent plunger rod.

Hydraulic oil leak ---------- Damaged or loose hydraulic fittings.

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Blade removal and installation

Step 1: Remove blade guard and splash flap using 9/16” wrench provided (figure 1).

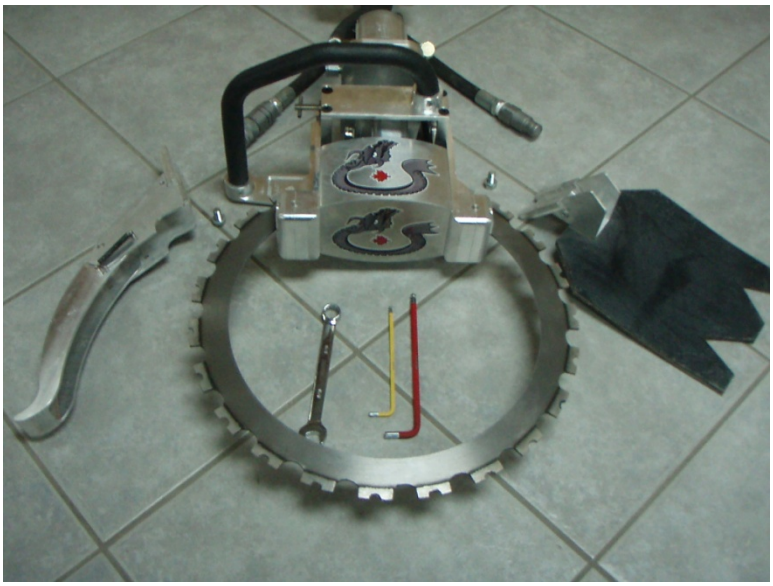

Figure 1

Step 2: Remove adjustable arm assembly (figure 2).

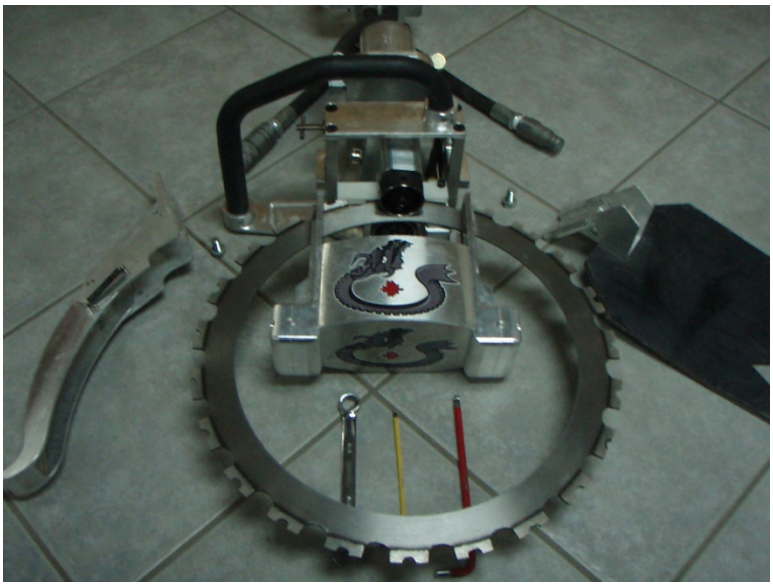

Figure 2

Blade removal and installation

Step 3: Relieve transmission assembly tension by pulling t-handle out and turning 90 degrees (figure 3)

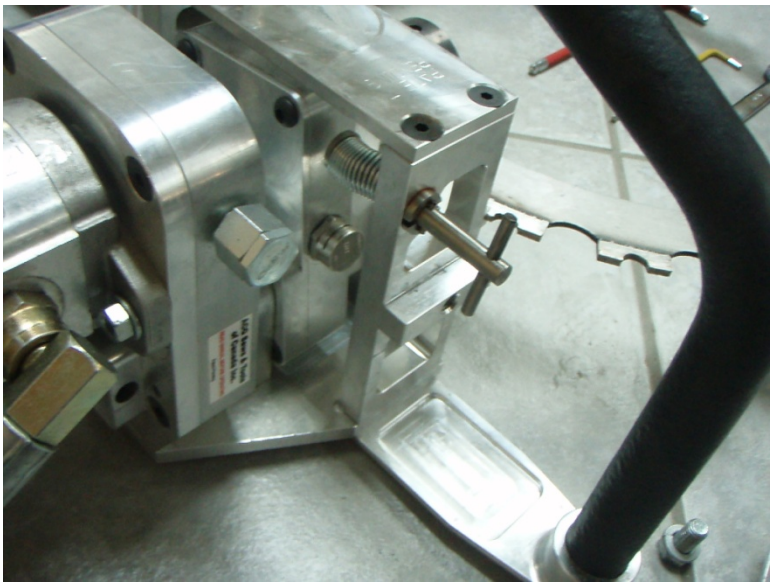

Figure 3

Step 4: Disassemble upper drive roller by locking roller and removing allen screw with the ¼" allen wrench provided (figure 4).

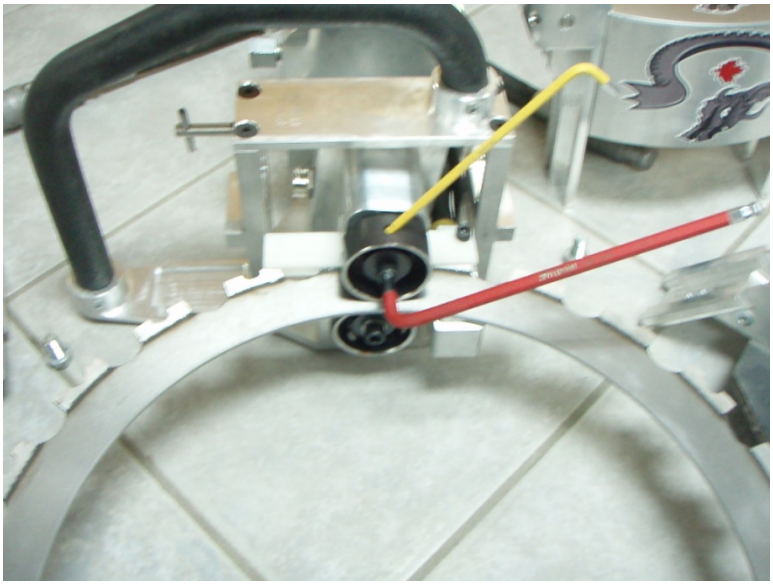

Figure 4

Blade removal and installation

Step 5: Hold transmission in neutral position and remove upper drive wheel and blade
(figure 5).

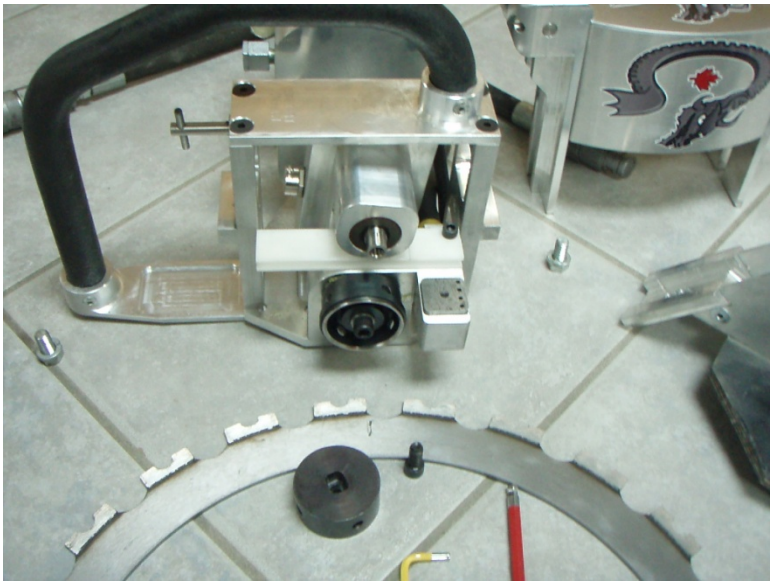

Figure 5

Step 6: Remove water injection plate with the 5/32” allen wrench provided. Note location of water injection holes prior to removing plate. Install new plate with water injection holes matching previous mounted location (outer right side opposite from drive wheel)(figure 6).

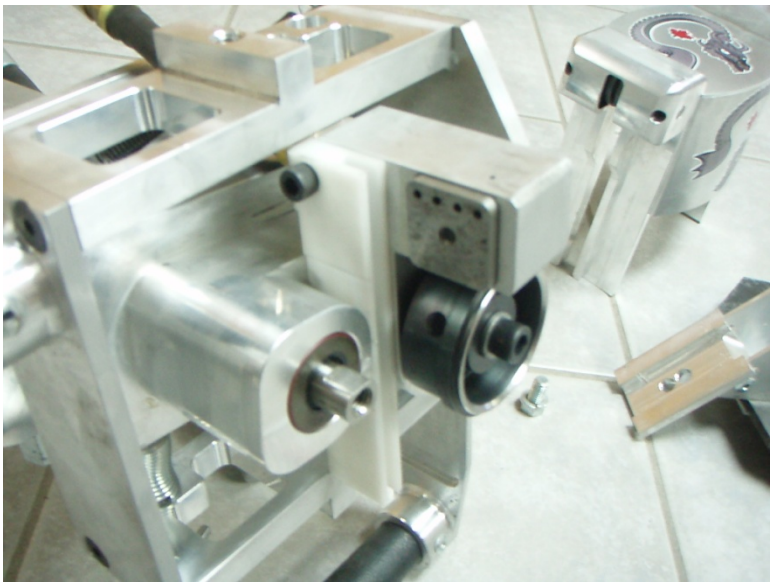

Figure 6

Blade removal and installation

Step 7: Inspect lower drive roller for wear on lip. Replace if lip is worn to half the original width (.200”)(figure 7).

Figure 7

Step 8: Install new blade, matching groove in blade to lip on the lower drive roller. (figure 8)

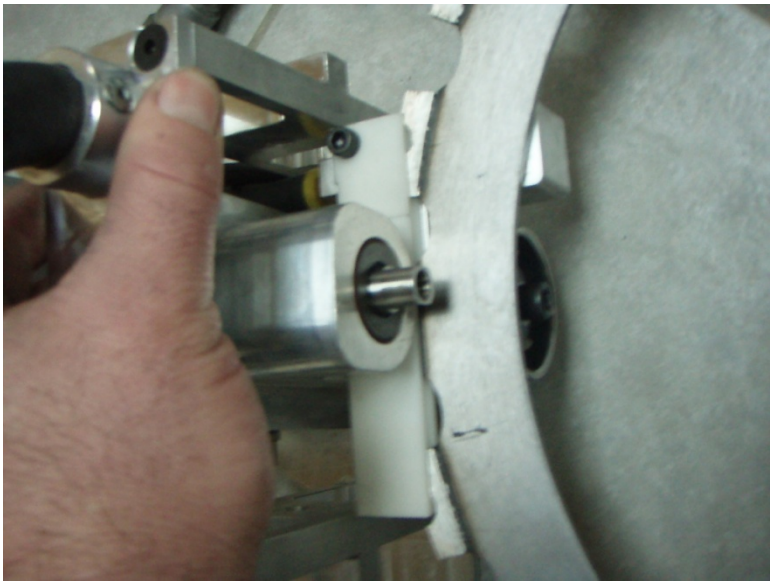

Figure 8

Blade removal and installation

Step 9: With the transmission assembly in neutral position, reinstall upper drive roller using the ¼" allen wrench provided. Tighten securely by locking drive wheel in position (figure 9).

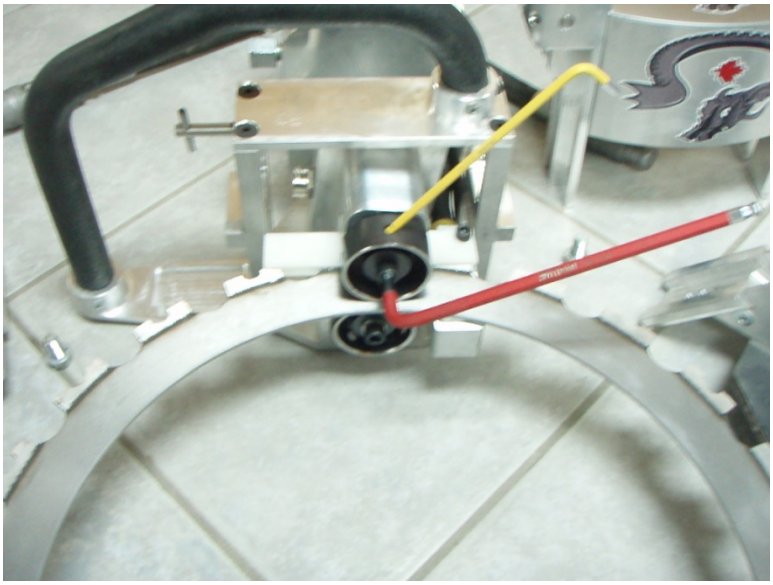

Figure 9

Step 10: Using 5/32" allen wrench provided, remove guide roller cover and inspect both guide rollers for wear or damage. Guide rollers should spin freely. Replace if necessary (figure 10).

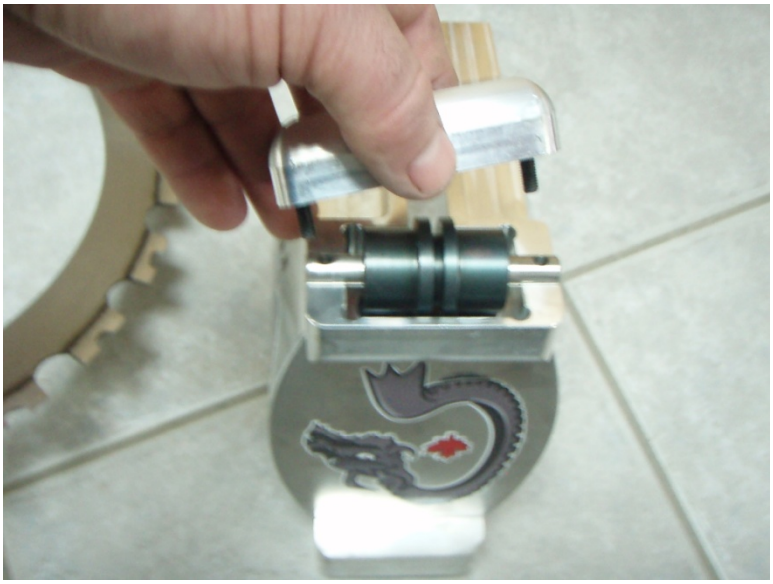

Figure 10

Blade removal and installation

Step 11: Reinstall adjustable arm assembly, blade guard and splash flap on saw. Hand tighten bolts. Place ring saw on flat surface (figure 11) so that the adjustable arm assembly is sitting with the weight of the saw on it. Tighten bolts using the 9/16” wrench provided. Guide rollers should be firmly in contact with the blade. Move t-handle to original location by pulling up and rotating 90 degrees, returning transmission assembly to the tensioned position.

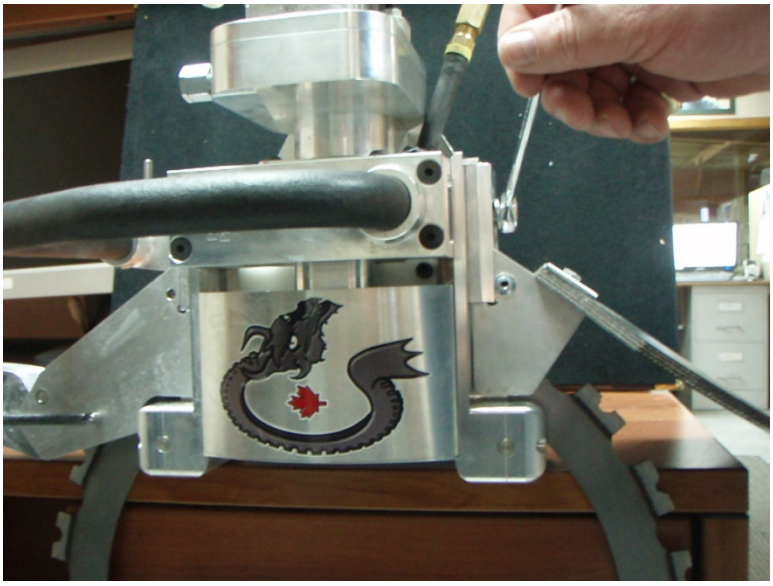

Figure 11

Step 12: Lay saw flat on table and reinspect blade for play at the guide rollers. Repeat step 11 if blade is not in firm contact with guide rollers.

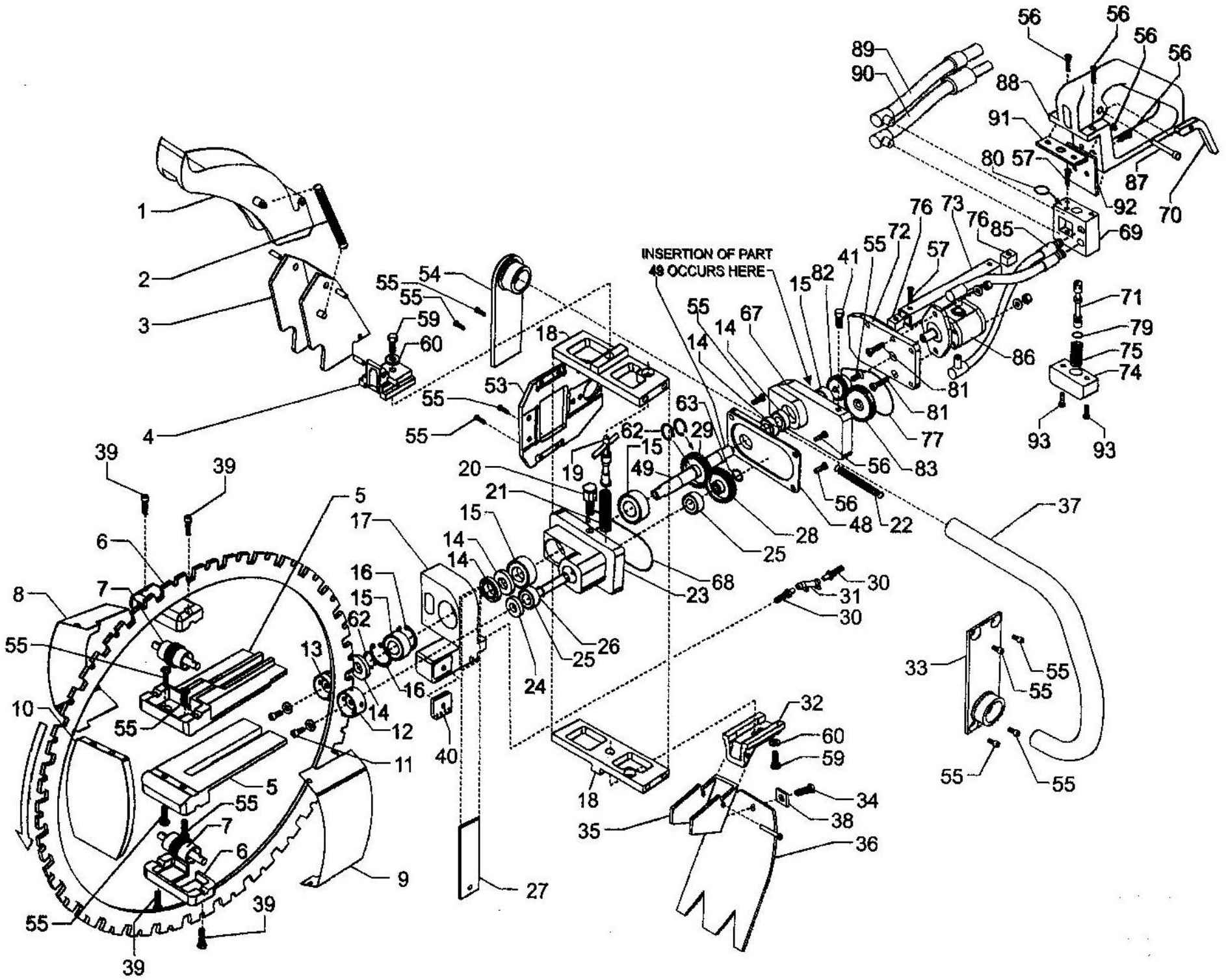
INSERTION OF PART
49 OCCURS HERE

Diagram Number	Part Number	Quantity Required	Description
*1**	*6061241*	-	*BLADE GUARD ASSEMBLY (INCLUDES 1, 2, 3, 4)*
1	6061188	1	BLADE GUARD
2	6061189	1	SPRING
3	6061190	1	UPPER GUARD
*3a**	*2903244*	*4*	*DOWEL PIN, 1/4" DIA X 1/2"*
4	6061191	2	CLAMPING BLOCK
*5**	*6061242*	-	*ADJUSTABLE ARM ASSEMBLY (INCLUDES 5, 6, 7, 8, 9, 10, 39, 55)*
5	6061192	2	ROLLER ARM
6	6061193	2	ROLLER ARM COVER
7	6061185	2	GUIDE ROLLER
8	6061194	1	SHIELD GUIDE ROLLER LEFT
9	6061195	1	SHIELD GUIDE ROLLER RIGHT
10	6061196	1	SHIELD GUIDE ROLLER FRONT
11	2900912	2	CAP SCREW, SOCKET HEAD 5/16-18 X 3/4"
12	6061186	1	DRIVE ROLLER UPPER
13	6061187	1	DRIVE ROLLER LOWER
14	2703968	5	OIL SEAL
15	2507022	4	BEARING. BALL 1623-2RS
16	2507020	2	RETAINING RING 1-3/8" INT.
17	6061197	1	COOLING BLOCK
18	6061198	2	SIDE PLATE U&L
19	6061199	1	ROLLER TENSIONER
20	6061200	1	AIR BREATHER # 1
21	6061201	1	SPRING ROLLER TENSION
22	6061202	1	SPRING # 2
23	6061203	1	TRANSMISSION
24	2703969	1	SEAL
25	2507021	2	BEARING, BALL 1616-2RS
26	6061204	1	ROLLER SHAFT UPPER
27	6061205	1	WATER CHANNEL
28	6061206	1	SPUR GEAR # 1
*28a**	*2901559*	*1*	*KEY, 1/8" X 1/8" X 3/8"*
29	6061207	1	SPUR GEAR # 2
*29a**	*2901559*	*1*	*KEY, 1/8" X 1/8" X 3/8"*
30	6061208	1	FITTING-WATER
31	6061209	1	HOSE-WATER
32	6061210	1	CLAMP BLOCK LOWER
33	6061211	1	HANDLE BRACKET LOWER
34	2900077	1	SCREW, HEX HEAD CAP 1/4-20 X 7/8"
35	6061212	1	GUARD LOWER
36	6061213	1	GUARD RUBBER FLOP
37	6061214	1	HANDLE-FRONT
38	6061215	1	SQUARE WASHER
39	2903250	4	SCREW, SOCKET HEAD CAP 10/32 X 7/8"
40	6061216	1	WATER INJECTION SKID PLATE
40a	2903251	1	SCREW, SOCKET HEAD CAPSCREW #10-32 X 1" (not shown)
41	6061217	1	VENT-GOR # 2
48	6061218	1	COVER-TRANSMISSION
49	6061219	1	SHAFT-TRANSMISSION
53	6061220	1	PLATE-BASE
54	6061221	1	BRACKET-TOP HANDLE
55	2900020	14	SCREW, FLAT HEAD 1/4-20 X 3/4"
56	2900628	6	SCREW, FLAT HEAD 1/4-20 X 1/2"
57	2900144	1	SCREW, HEX HEAD 1/4-20 X 3/4"
59	2900196	2	SCREW, HEX HEAD 3/8-16 X 3/4"
60	2900014	2	WASHER, 3/8" FLAT
62	2500697	1	RETAINING RING 1/2" EXT.
63	2500364	1	RETAINING RING 5/8" EXT.
67	6061222	1	GEAR BOX
68	2505124	1	O-RING
69	6061223	1	VALVE BODY-HYDRAULIC
70	6061224	1	HANDLE
71	6061225	1	PLUNGER

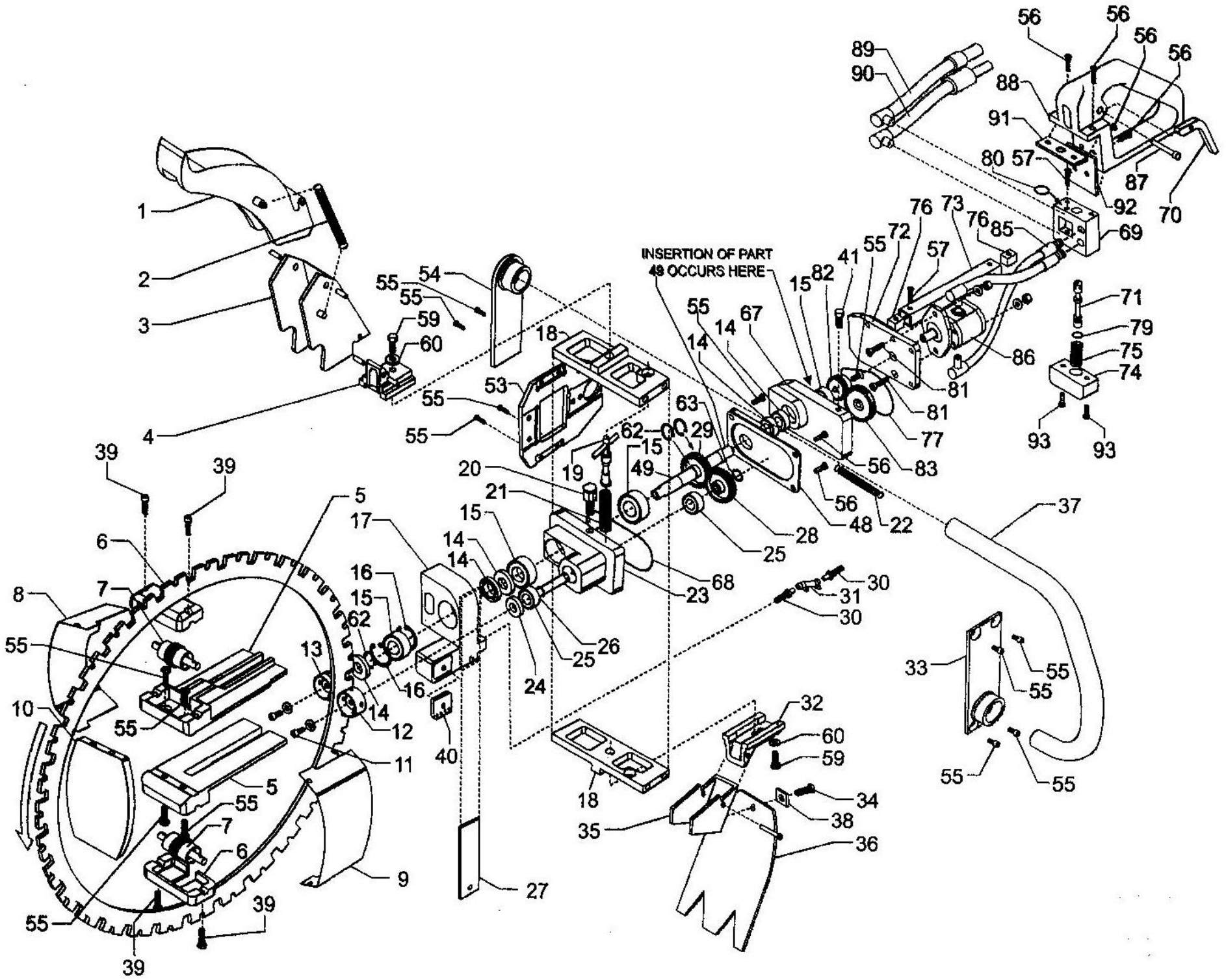
INSERTION OF PART
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Diagram Number	Part Number	Quantity Required	Description
72	6061226	1	COVER-GEAR BOX
73	6061227	1	STEM
74	6061228	1	VALVE CAP
75	6061229	1	SPRING
76	6061230	2	STEM BLOCK
77	2505125	1	O-RING
79	2505126	1	SEAL-QUAD
80	2706791	1	SEAL-QUAD
81	2902985	2	SCREW, FLAT HEAD 1/4-20 X 1-1/4"
82	6061231	1	GEAR SMALL
83	6061232	1	GEAR LARGE
85	6061233	2	HOSE ASSEMBLY # 2
86	6061234	1	MOTOR CASAPPA
87	2900088	1	SCREW, SOCKET HEAD CAP 1/4-20 X 1"
88	6061235	1	HANDLE ASSEMBLY
89	6061236	1	HOSE ASSEMBLY # 3
90	6061237	1	HOSE ASSEMBLY # 4
91	6061238	1	INSULATOR-HEAT SMALL
92	6061239	1	INSULATOR-HEAT LARGE
93	2903250	2	SCREW. SOCKET HEAD CAP 10-32 X 7/8
94	*6061240*	-	*REBIULD KIT, DRAGON SAW (INCLUDES ALL BEARINGS, SEALS AND LUBRICANT)*

*** Denotes not called out on diagram*

NOTES

NOTES

EQUIPMENT AND PARTS WARRANTY

Diamond Products warrants all equipment manufactured by it against defects in workmanship or materials for a period of one (1) year from the date of shipment to Customer.

The responsibility of Diamond Products under this Warranty is limited to replacement or repair of defective parts at Diamond Products' Elyria, Ohio factory, or at a point designated by it, of such parts as shall appear to us upon inspection at such parts, to have been defective in material or workmanship, with expense for transportation and labor borne by Customer.

In no event shall Diamond Products be liable for consequential or incidental damages arising out of the failure of any Product to operate properly.

Integral units such as engines, electric motors, batteries, transmissions, etc., are excluded from this Warranty and are subject to the prime manufacturer's warranty.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, AND ALL SUCH OTHER WARRANTIES ARE HEREBY DISCLAIMED.

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