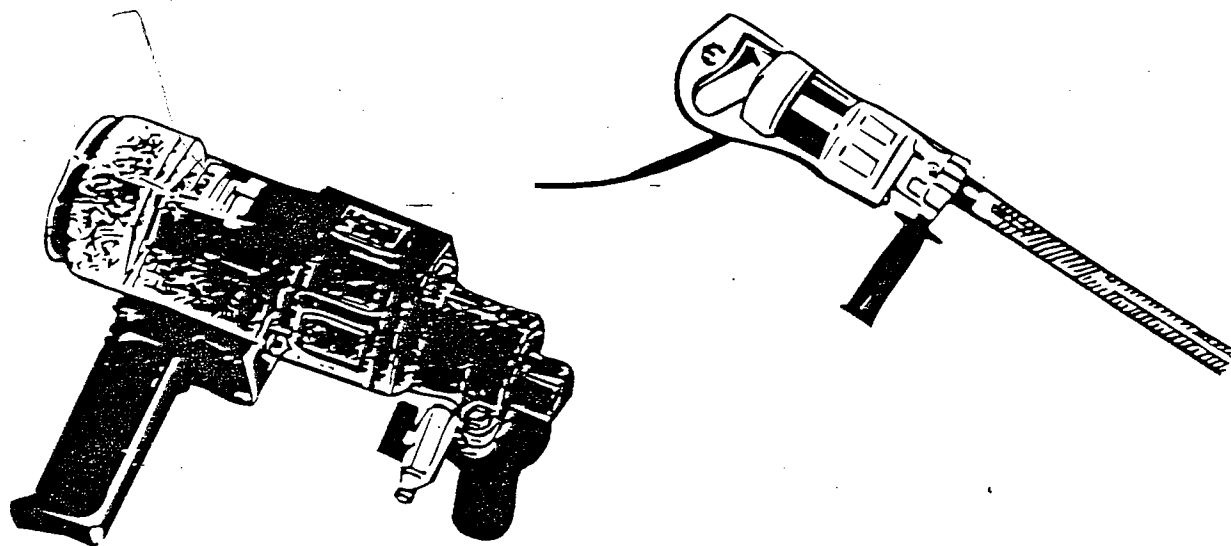


**DR Bender  
Professional  
Hand Held Diamond  
Core Drill  
OWNERS MANUAL**



**HD2L Hand Held Drill 2 Speed Low  
HD2H Hand Held Drill 2 Speed High  
HD4 Hand Held Drill 4 Speed**

***clipper***

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## **General Safety**

- For Additional Safety Use A Ground Fault-Interrupter (GFI ) Device
- Do Not Use The Drill In Inflammable, Gaseous, Or Explosive Atmosphere
- Do Not Expose The Drill Motor To Rain Or Use In Damp Or Wet Locations
- Do Not Abuse The Cord, Or Carry Or Lift The Motor By The Cord
- Keep The Power Supply Cord Away From Humidity And Water
- Make Sure That The ON/OFF Switch Is In The "OFF" Position Before Plugging Into The Power Source
- Unplug The Drill Before Changing A Drill Bit
- Unplug The Power Cord When Attaching The Water Supply, Also Turn The Water Valve To The "Off" Position Before Attaching
- Do Not Use Is Parts Of The Motor Housing Are Missing Or Damaged
- Do Not Use If The Power Cable Or Extension Cable Is Damaged
- Do Not Make Any Attachments, Adjustments, Or Accessory Changes With The Unit Plugged In
- Always Use The Proper Length/AWG For Extension Cords (See The Section Titled Electrical Connections)

**You Are Responsible For Your Safety!!!**

## Technical Data

### Usage:

#### **Wet or Dry Hand Held Drilling**

- Wet drilling in reinforced concrete
- Dry drilling in block or brick
- Wet or Dry drilling in natural stone

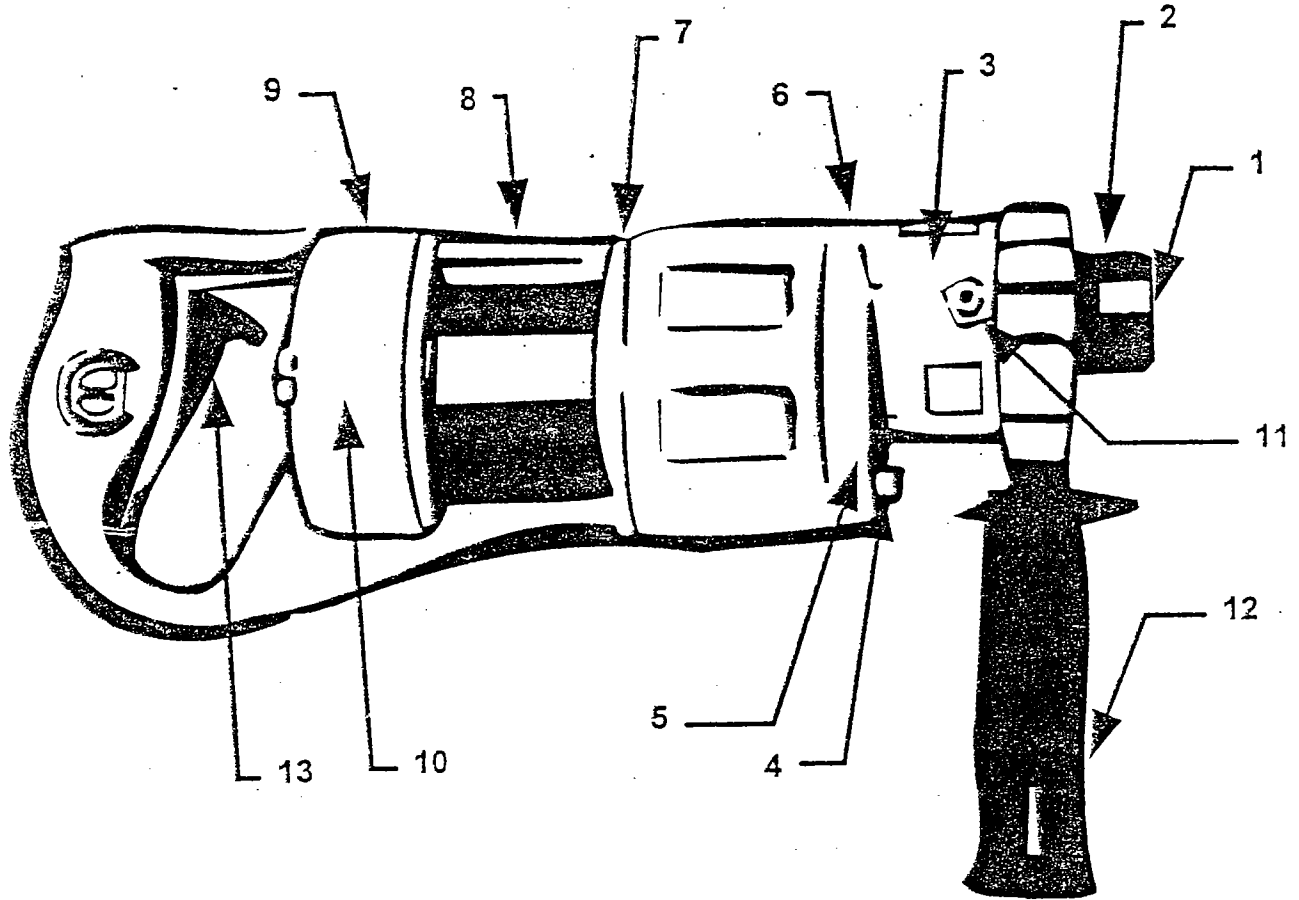
#### **Installation of pipes, conduit, and anchoring systems for:**

- Electric Supplies
- Phone-TV Cables
- HVAC And Plumbing
- Gas
- Fire Sprinklers
- Dryer Vents
- Wedge and Epoxy Anchors

#### **Clipper Hand Held Drill Benefits:**

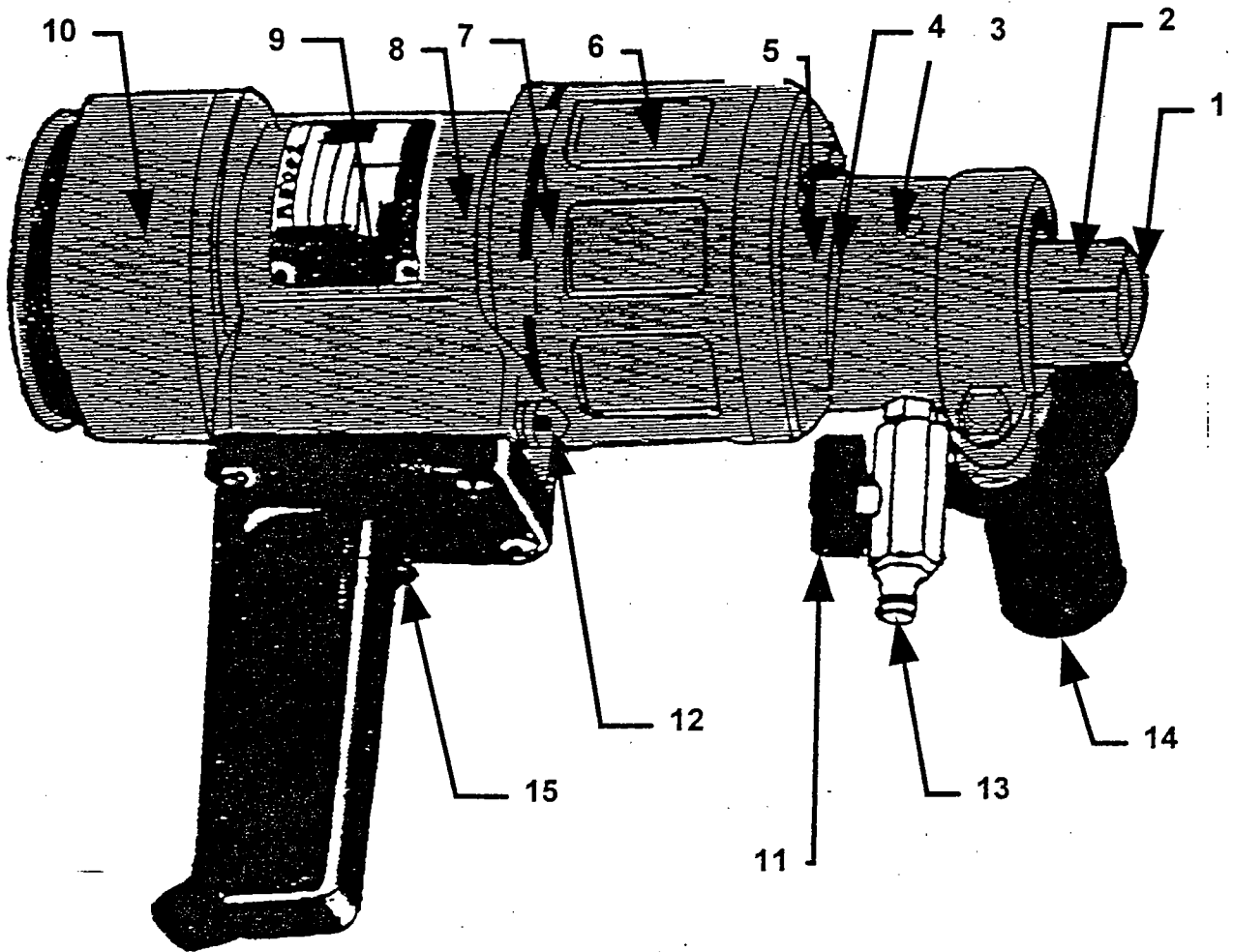
- Minimum Set Up Time
- Highly Portable
- Easy To Operate
- Drill Holes In Almost Any Surface Or Any Place
- Wet Or Dry Core Drilling
- 3/8" to 6" Drilling Capacity

## Main Parts HD2L And HD2H



Item Number	Description
1	Drill Spindle 1/2" BSP
2	Spindle Shaft 32 mm Flats
3	Over Flow Hole
4	Gear Speed Selector Lever
5	Water Swivel/Clutch Hosing
6	Gear Case
7	Air Cooler Slots
8	Motor Housing
9	Serial Number Plate
10	Commutator Cap
11	Water Valve
12	Front Handle (228019)
13	Handle With Built In On/Off Switch

## Main Parts HD4



Item Number	Description
1	Drill Spindle 1/2" BSP
2	Spindle Shaft 32 mm Flats
3	Over Flow Hole
4	Gear Speed Selector Lever
5	Water Swivel/Clutch Hosing
6	Gear Case
7	Air Cooler Slots
8	Motor Housing
9	Serial Number Plate
10	Commutator Cap
11	Water Valve
12	Thermal Overload Switch
13	Quick Attach Coupler (Male) For Water system
14	Front Handle (228019)
15	Handle With Built In On/Off Switch

## Electrical Connections

- When Using An Extension Cord On A Rolled Reel (Or Drum): Unroll The Whole Length Of The Cable, Otherwise A "Coil Effect" Will Lead To The Loss Of Power

### Extension Cords:

- ◇ Use Three-Wire Extension Cords With Three Prong Plugs And Three-Pole Receptacles With Are Properly Grounded
- ◇ Use Only A Extension Cord And Wire Gauge (AWG Or  $\text{mm}^2$ ) As Shown In The Table Below. The Longer The Extension Cord The Heavier The Gauge. Too Long And Too Thin (Small AWG) Size May Cause:

Problem	Result
Drop In Voltage	Reduced Power
Loss Of Power	Possible Motor Damage
High Power Consumption	Fuses May Blow



### Extension Cords Sizes:

Length	AWG (US Extension)	$\text{mm}^2$ (CEE Extension)
25 ft (7.5 m)	16	1.3
50 ft (15 m)	14	2.1
75 ft (25 m)	12	4.0
100 ft (30 m)	10	5.3
150 ft (45 m)	8	8.0

### Electrical Connections:

The installation of cables, plugs, and switches must be made **ONLY** by an authorized electrician. All installations must be made according to the local regulations for electrical equipment. All components must meet local requirements. For additional information see the National Electrical Code (NEC).

## Water Supply

### Operation:



Always disconnect the power supply before attaching or detaching the water system to the Clipper Hand Held Drill

1. Attach the Female Quick Coupler to the water supply hose. **NOTE:** A *pressure tank can only be used for small hole drilling. The pressure tank should not be lower than 7 PSI (0.5 bar)*
2. Place the Water Tap in the "Closed" position
3. Attach the Female Quick Coupler to the Male Quick Coupler by pulling back on the Female Quick Coupler retaining ring and pressing it gently into the Male Quick Coupler.
4. Turn on the water supply
5. Slowly turn the Water Tap to the "Open" position

To remove the water supply from the Clipper Hand Held Drill:

1. Slowly turn the Water Tap to the "Closed" position
2. Turn "Off" the water supply
3. Detach the Female Quick Coupler from the Male Quick Coupler by pulling back on the Female Quick Coupler retaining ring and pulling it gently way from the Male Quick Coupler.
4. If the job is finished for the day see the section Water System Maintenance

### Safety:

- ◆ Before Connecting The Clipper Hand Held Core Drill To The Water Supply Be Sure That The Electrical Supply Is Not Attached To The Drill
- ◆ Check That The Water Supply System Connection Is Correctly Made And Is Tight Before Plugging The Clipper Hand Held Drill To The Power Supply
- ◆ The Water Supply Should Not Exceed 56 PSI (4 Bar)
- ◆ Water Supply System Pressure Should Not Be Less Than 7 PSI (0.5 Bar) Other Wise The Drill Bit May Run Dry
- ◆ If A Pressure Tank Is Used, DO NOT Place The Tank A Level Above The Drill Hole And/Or Supply The Clipper Hand Held Drill With Atmospheric Pressure. The Drill Bit Will Run Dry And Will Over Heat Due To Improper Cooling



## Recommended Drill Sizes

The following recommendations for drill sizes and speeds must be obeyed at all times:

Material ⇨	Hard & Critically Hard Concrete	Medium Hard To Soft Concrete	Soft & Abrasive Concrete, Or Brick	
Drill Speed ↓	Max Drill Size	Max Drill Size	Max Drill Size	Model
3000 RPM 2290 (HD4)	3/8" To 3/4" (10 To 20 mm)	3/8" To 1" (10 To 30 mm)	3/8" To 1-5/8" (10 To 40 mm)	HD2H HD4
1500 RPM 1400 (HD4)	3/4" To 1-5/8" (20 To 40 mm)	3/4" To 2" (20 To 52 mm)	3/4" To 2-3/8" (20 To 60 mm)	HD2H HD4
1300 RPM 900 (HD4)	1" To 1-5/8" (25 To 40 mm)	1-1/8" To 2-1/4" (30 To 56 mm)	1-1/8" To 2-3/8" (30 To 60 mm)	HD2L HD4
650 RPM 498 (HD4)	1-5/8" To 2-1/2" (40 To 66 mm)	1-5/8" To 2-1/2" (40 To 66 mm)	1-5/8" To 2-1/2" (40 To 66 mm)	HD2L HD4

### Recommend Drill Sizes And RPM

HD2H	HD2L	HD4
1" to 6"	3/8" To 2-1/2"	1" to 6"

### Drill Range For The Various Models

## Recommended Drill Sizes

Shift the gear selector only when the motor is stopped.

To assist the engaging of the gears turn the drill spindle clockwise and counter-clockwise

**DO NOT** use tools such as a hammer or pipe wrench for shifting gears

Make sure that the gear selector lever returns to the outer position after changing gears

**Do NOT** touch the trigger when changing gears

# Operating Instructions



Read and understand this manual before using this product!!!

## Operating Check List:

HD Drill Must Be In Good And Safe Operating Condition

32 mm (1-9/32") (For HD Drill Spindle)

Proper Fitting Wrench For Drill Bit (Do Not Use A Pipe Wrench)

Water Supply Must Be In Good Operating Condition

Water Supply With Proper Water Flow Rate (See Section **Water Supply** pages 12-14)

Water Collection Ring (Sold Separately) Or Other Method To Contain Waste Water And Slurry (See Section **Water Supply** pages 12-14)

Proper Length To Wire Gauge (AGW) Ground Extension Cord (See Section **Electrical Connections** page 10-11)

Ground Fault Protection Is Recommend (See Section **Electrical Connections** page 10-11)

Proper Electrical Supply

Drill Bit

Proper Approved :

Hearing Protection

Eye Protection

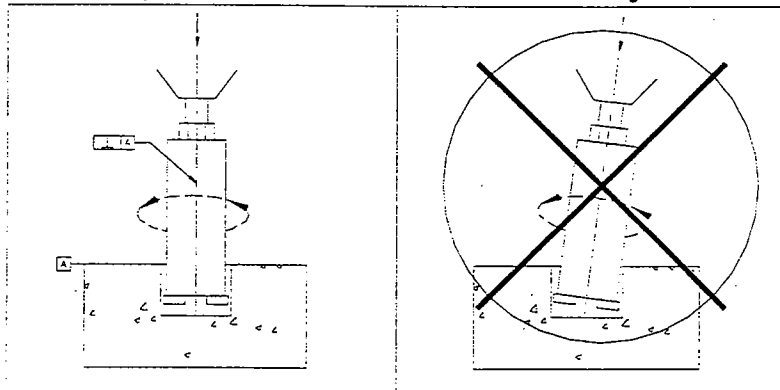
Dust Mask



## Drill Operation:



Most drill problems occur due to improper starting and drilling method and the wrong power supply and or extension cord length/AWG. To extend the life of the drill the following Hand Held drilling must be followed, not following these instructions **will damage the tool and void the warranty!!!**



**Keep The Drill Perpendicular To The Work At All Times. Do Not Force The Drill**

## Drill Operation

When drilling by hand use a drill bit that has a bond that is one (1) class softer than you would normally use with a Rig Mounted drill. See your Clipper Distributor or call the Clipper factory at 1-800-554-8003 for a proper bit recommendation.

### Drill Rig:

When using the Clipper HD series Hand Held Drill with a Drill Rig apply a constant feed pressure. Do Not force the HD Hand Held Drill or the motor will overload.

### Thermal Overload Protection:

The HD2L, HD2H and HD4 models have a thermal overload protection built in. The HD2L and HD2H model will reset within 30 minutes when the Hand Held Drill is pushed too hard. The HD4 model has a manual reset thermal overload protection: If the thermal overload protection is tripped on the HD4 model wait about 5 to 10 minutes and press the thermal overload button (located in the plastic dome on the front of the switch handle), if the thermal overload switch stays on when pressed wait about 5-10 minutes more minutes and press it again (repeat this step until the thermal overload protection button stays engaged).



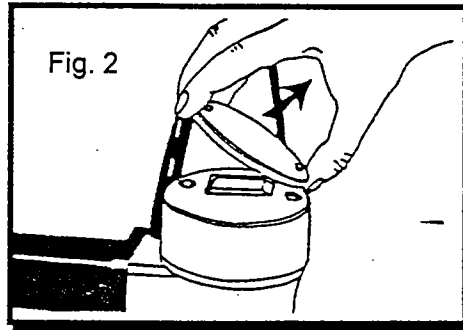
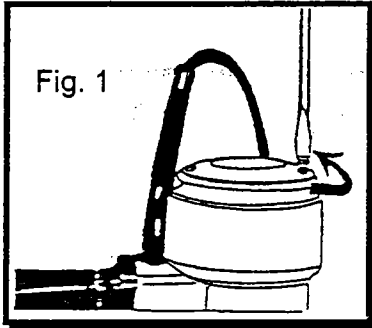
If the thermal overload switch releases very often while drilling Do Not look for a problem with the machine. Recheck the power supply (Proper Voltage) (See Electrical Connections pages 10-12), cord length and AGW (See Electrical Connections pages 10-12), and drilling method (See Drill Operation 17-19)!! Do Not remove the thermal overload protection switch (removing the Thermal Overload Protection Switch will void the warranty)

The thermal overload protection only is activated when the motor is too hot: This is mainly caused by:

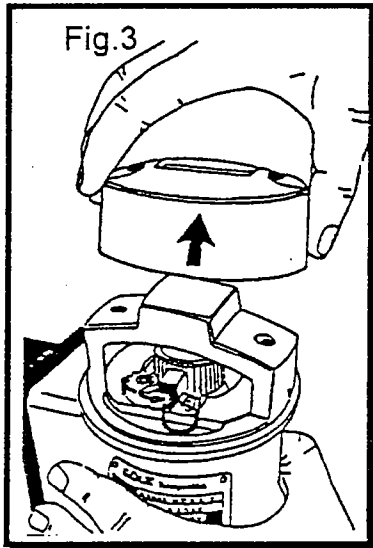
- Misalignment Of The Drill
- Not Decoring Every 2"-3"
- Too Strong Of A Feed Pressure (Use A Softer Segment, Reopen Current Drill Bit, Lighten Up On The Feed Pressure)
- Poor Water Supply (When Wet Drilling)
- Too Large Of A Drill Diameter (See Recommended Drill Sizes)
- Too Long Of A Drill Bit (Hard To Keep Straight)

## Maintenance

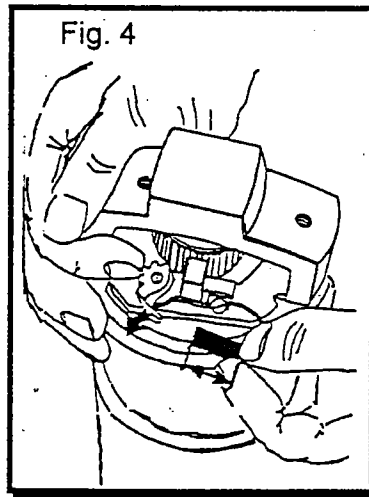
1. Loosen the cover retaining screws see Fig 1



2. Remove the Cover see Fig 2



3. Remove the Cap by hand see Fig 3

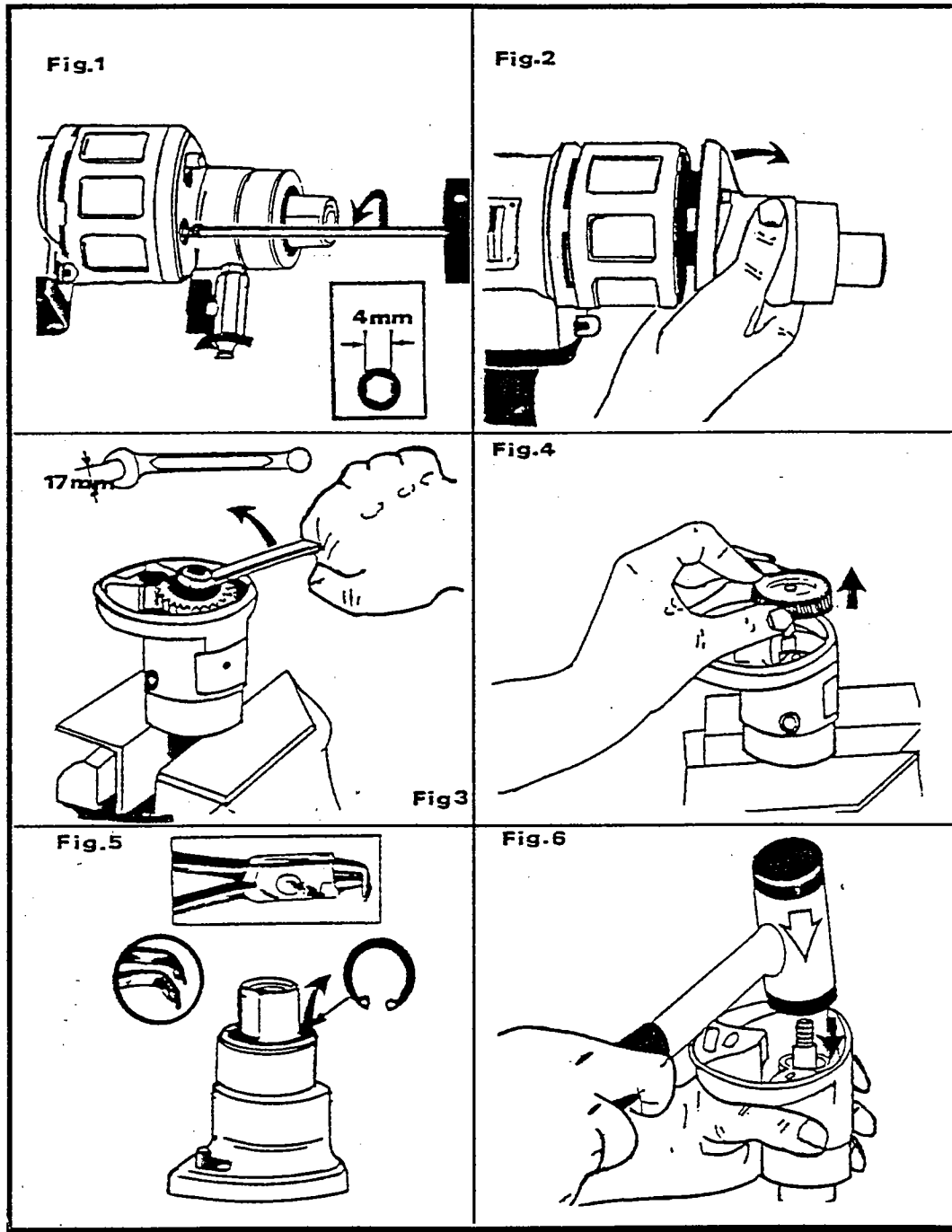


4. Check the length of the brushes by lifting the Brush Retaining Spring and pulling the Brushes out of the holder. The total length must be a minimum of  $5/32$ " (4 mm). If the length is less than  $5/32$ " (4 mm) replace both brushes with new (P/N: 228024. Check

the Commutator surface. If the Commutator is burnt or worn have it replaced by an authorized repair shop.

## Maintenance

Tool Needed: 4 mm Hex Socket (Allen Type) Wrench, 17 mm (11/16") Box Wrench, Clip Ring Pliers, Rubber or Plastic Hammer, 16 mm (5/8") Punch. and 30 mm (1-3/16") Punch



1. Remove the two (2) Water Swivel Housing Mounting Screws with the 4 mm Hex Socket Wrench
2. Remove the Water Swivel Housing

## Maintenance

### Clutch



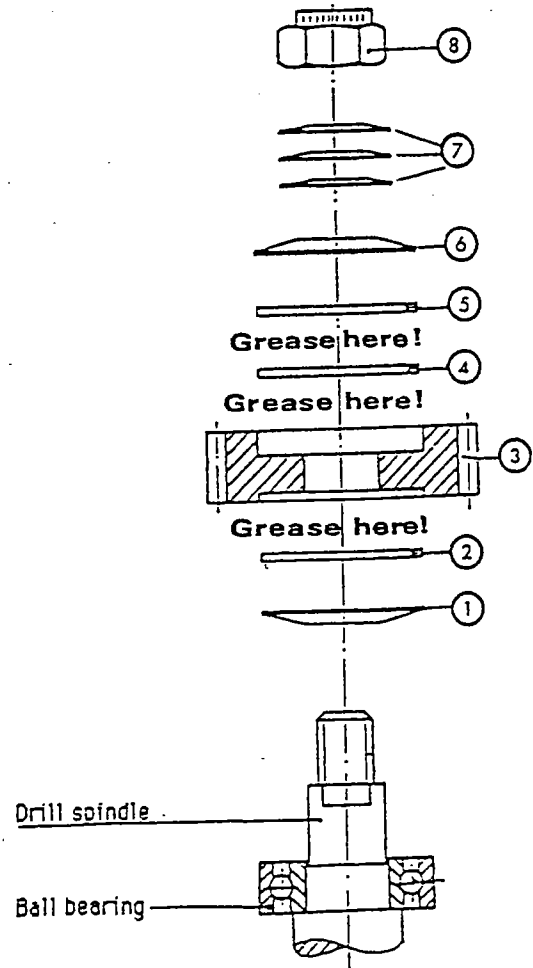
The HD Hand Held Drills have a built in Clutch which is designed to protect the operator, drill motor, and the diamond tool. When the Clutch is working properly, the Clutch will allow the Spindle to rotate freely when the Drill Bit is jammed or forced too hard into the work. If the Clutch engages do not let it "Slide" for longer than 1-2 seconds. Longer "Sliding" times can overheat the Clutch and cause damage to the surface of the Spring Loaded Washers. Always prevent overloading of the motor and prevent the releasing of the Clutch. After several releases the Clutch should be inspected.

The Clutch will need to readjusted when one of the following has occurred:

- Drill Spindle Disassembled For Changing The Water Rings
- Clutch Released Below 7 Amps Of Power Consumption

### Clutch Reassemble

1. Place Plate Washer (1) on to the Drill Spindle
2. Place Friction Washer (2) On Drill Spindle
3. Grease both flat sides of Gear (3) and place it into position. Rotate Gear to distribute grease. **USE Universal Gear Grease "UNIMOLY GL" or Similar**
4. Place Friction Washer (4) onto the Gear (3) and rotate. Grease the top of Friction Washer (4)
5. Place Friction Washer (5) on Friction Washer (4)
6. Place the second Plate Washer (6) with the larger diameter towards the Friction Washer
7. Place the three Plate Washers (7) on to the Drill Spindle with the Larger Diameter facing the Gear (3)
8. Attach the Nylock Nut (8) on to the Drill Spindle and tighten.



### Clutch Adjustment

Tools Needed: Torque Wrench with 32 mm (1-9/32") Wrench Attachment, 17 mm Box Wrench, and Vise

## Trouble Shooting

### Diamond Tools

<b>Problem: Low Drill Bit Penetration</b>	
Cause	Remedy
Hard-Bonded Segments	Use One Class Softer Diamond Segments Re-Expose Drill Bit In Concrete Center Block
Too Many Segments	Use A Bit With Less Segments
Drill Speed Too Fast	Use A Lower Speed
Drilling In Steel	Use A Lower Speed, Increase Water Flow, Lower Feed Pressure
Drill Bit Worn Out	Replace With A New "Clipper" Drill Bit
Insufficient Bit Load	Increase Feed Pressure
Loose Material At Bottom Of The Hole	Break And Pull Core, Clean Bottom Of Hole Or Reduce Speed And Increase Bit Load
Miss-aligned Drilling	Use Segments That Are Wider Than The Drill Tube For Better Clearance. Pull The Core After Drilling Approx. 2" When Hand Drilling
Bit Face Plugged With Cuttings	Increase Water Flow, Reopen The Bit By Drilling Into A Concrete Center Block
Segment Surface Covered With Steel Chips	Reduce Speed, Reopen The Bit By Drilling Into A Concrete Center Block

<b>Problem: Excessive Wear Of Segments</b>	
Cause	Remedy
Soft Bonded Segments	Use A Bit With One Class Harder Segments
Bit Out Of True	Use A New Drill Bit
Bit Is Deformed	Use A New Drill Bit Use Of Deformed Drill Bits Can Damaged The HD Hand Held Drill
Miss-aligned Drilling	Aligned Drill Properly
Abrasive Material	Use A Bit With One Class Harder Segments
Poor Water Flow	Increase The Water Flow
Feed Pressure Too High	Reduce Feed Pressure
Too Few Segments	Use A Bit With More Segments
Too Low Of Speed	Increase Drilling Speed

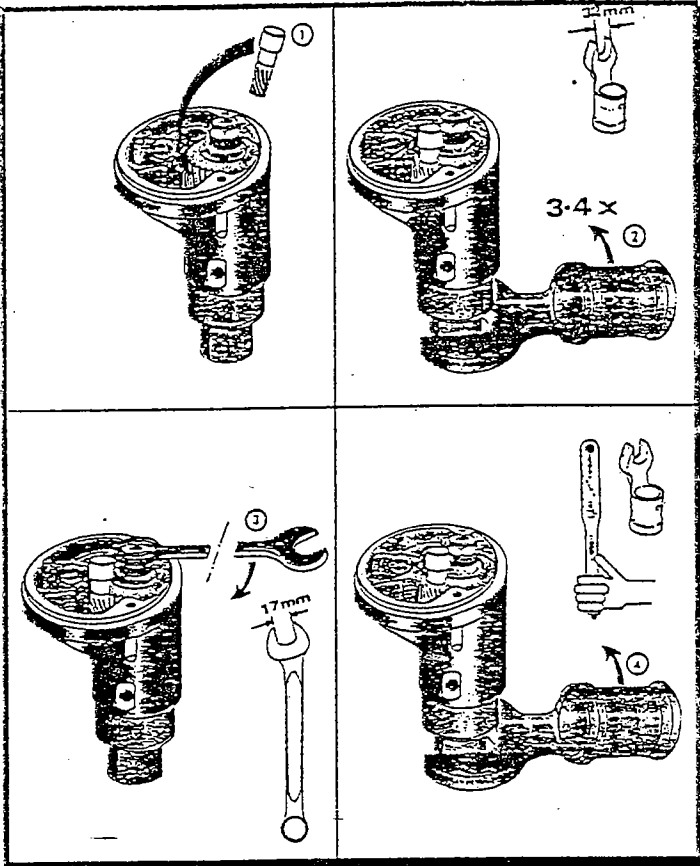
## Trouble Shooting

### Drill

Problem	Cause	Remedy
Clutch Release	Drill Bit Is Stuck Due To Loose Material In Drill Hole  Very Miss-aligned Hole  Clutch Needs Adjustment	Remove The Drill Machine Apply Wrench And Rotate Bit In Both Directions While The Bit Is Under Tension  Remove The Core And Re-center The Drill  Readjust The Clutch See Page 25-26 Clutch Adjustment
Drill Is Difficult To Start Up While Hand Drilling	Drill Bit Is Not Steady	See Page 17-19 Drill Operation
Core Is Difficult To Remove	Miss-aligned Drilling	Break Core And Remove Re-center Drill
Drill Bit Cannot Be Extended	Threads On The Back End Of The Bit Are Larger Than The O.D.	Use A Longer Drill Bit, But Predrill With A Shorter Bit
Penetration Of Drill Bit Is Poor	Drill Speed Is Too Fast Tool Problems	Use A Lower Speed See Page 27-28 Diamond Tools



## Maintenance



1. Clamp the Water Swivel Housing into a Vise
2. Take a used Driving Gear or similar device and block the Driven Gear against the housing
3. Use the Torque Wrench with the 32 mm Wrench Attachment and rotate the Drill Spindle clockwise 3 to 4 times
4. Tighten the Nylock Nut with the 17 mm-Box Wrench. Check the Torque Spindle Torque: HD2L & HD2H= 18.4 ft/lbs (25 Nm); HD4= 22.1 ft/lbs (30 Nm)

Do not check the torque at the Nylock Nut!!

## Parts Listing

Part Number	Description
228011- ABS	Ring Seal Kit
228012- ABS	Swivel Flexible Water
228013	Coupler Quick Male
228014	Coupler Quick Female
YPB258992	Adapter 1/2 BSP To 5/8-11
<del>228016</del> ABS	Adapter 1/2 BSP To 1-1/4-7
228017	Wrench 32mm
228018	Wrench 41mm
228019- ABS	Handle Assembly
228020	Key Hex 6mm (Allen) Wrench
228024	Brush Set (2)

YPROBORE 2111

YPROBORE

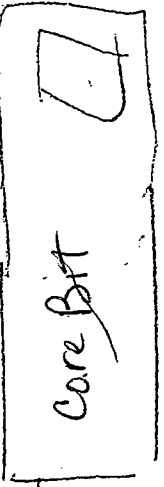
HHD2

HHD2H

5/8-11 male 1/2 BPS male

YPB 25899 2

FM



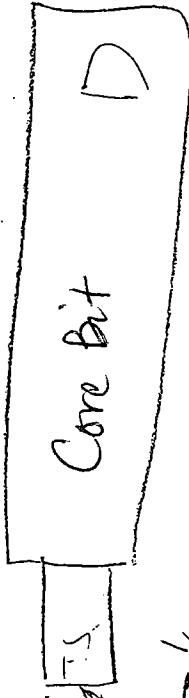
1/2 BPS FM

1-1/4-7 male

1-1/4-7 FM

1/2 BPS

Y1034



1/2 BPS FM

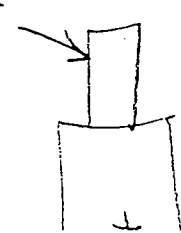
5/8-11 FM - 5/8-11 M

1/2 BPS M

YPB 25899 2

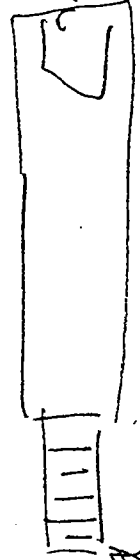
YPROBORE 2113

HD 3



1/2 BPS FM

1-1/4-7 FM



No Adpt.

1-1/4-7 male

NO PARTS ARE

are Parts List

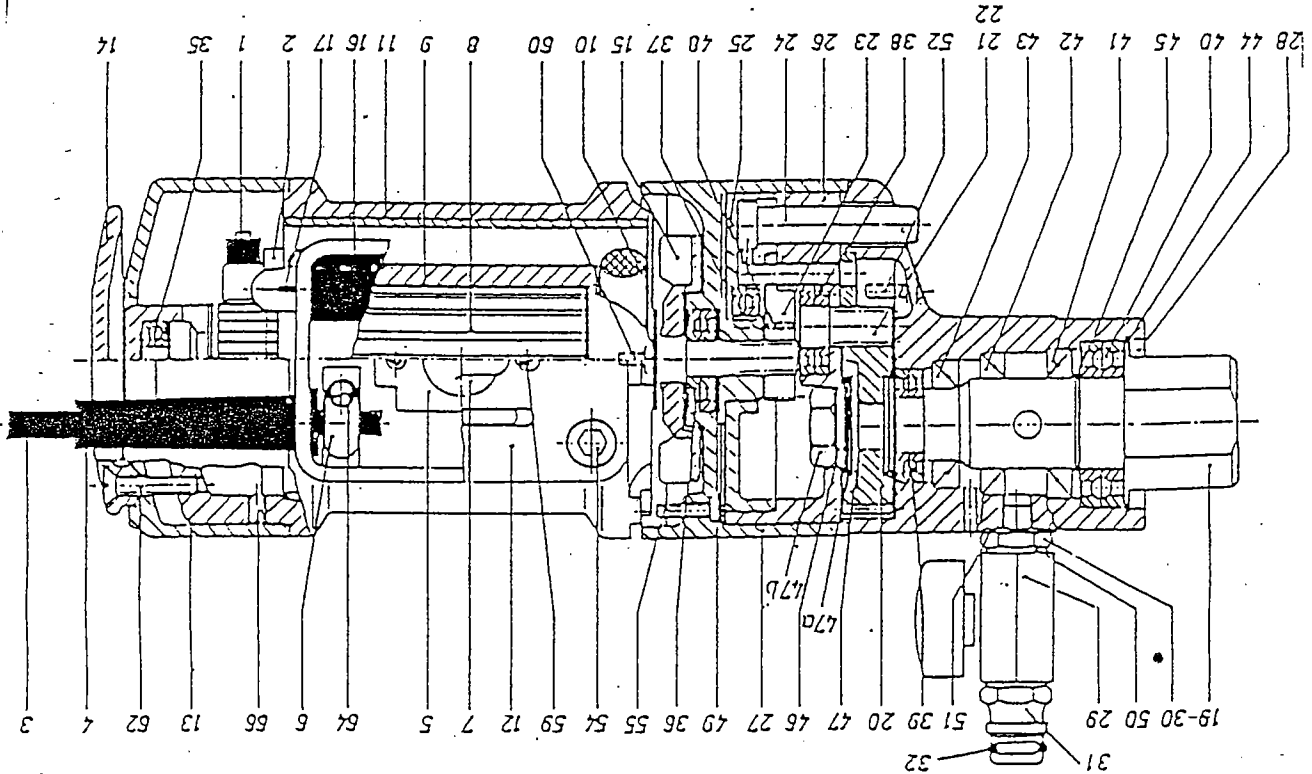
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Spare Parts List

R-5002 110V 50 Hz

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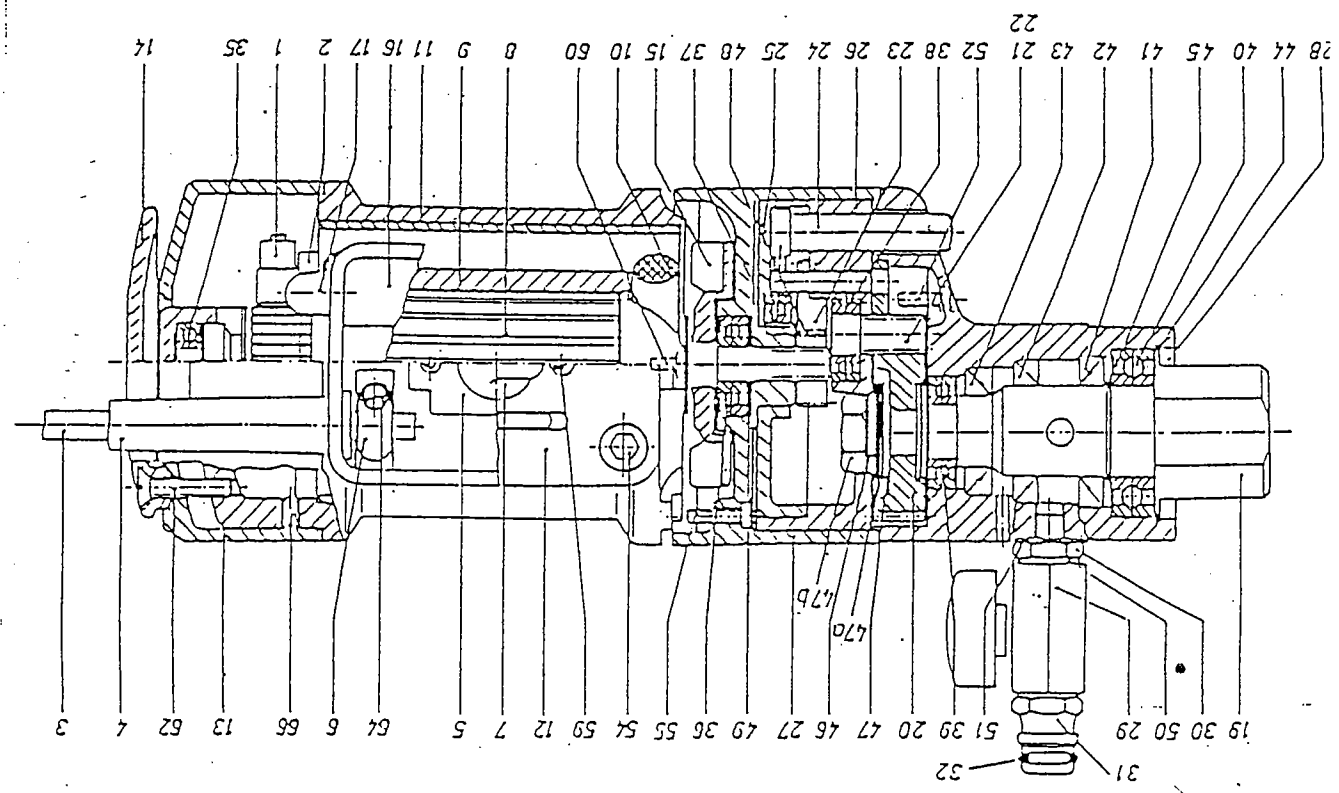
Electric R 5002 110 Volt 50Hz

Bild Nr. Figure	Bestellnummer Item Number	Stück Numbers	Benennung Description	Standard
1	0267 113 0097	2	carbon brushes 110 V	R 5002-110
2	0267 113 0098	1	brush holder assy 110 V	R 5002-110
3	0267 113 0003	4	supply-cable CEE 3cords	R1-3-11
4	0267 113 0004	1	cable inlet protection	R1-41
	0267 113 0100	1	on/off switch 2-poles 110 V	P5-5F1
		1	hand-held trigger version	
		1	on/off switch RIG mounted	
6	0267 110 0006	1	110 V, version R5002	R5-61
7	0267 113 0007	1	pull-out protection clamp	R5-71
		1	cover for on/off switch	
8a	0267 113 0063	1	RIG mounted R5002	
		1	armature 110 V 1500/3000 rpm	
8 b	0267 113 0069	1	armature 110 V 650/1300 rpm	
		1	8 teeth	
9	0267 113 0099	1	field-coil R5002 110 V	P1-101
10	0267 113 0010	1	air-flow plate	P5-111
11	0267 113 0011	1	motor housing	P5-121
12	0267 113 0012	1	cover el. inlet	
		1	cover incl. on/off switch	
13	0267 113 0013	1	commutator cap	R1-381
14	0267 113 0014	1	cover	R5-141
15	0267 113 0015	1	ventilator fan	R1-351
16	0267 113 0068	1	thermal overload switch 110 V	P5-161
17	0267 113 0017	1	dust cover for t.o.s switch	R5-191
18	0267 113 0018	1	driving gear 1500/3000 rpm	R5-20R1
19	0267 113 0019	1	drill spindle	R5-21R1
20	0267 113 0020	1	gear driven (drill spindle)	
21	0267 113 0021	1	shaft for gear driven (1st)	
22	0267 113 0022	1	shaft for gear driven (2nd)	
23	0267 113 0023	2	gear wheel (R5002 WDER)	
24	0267 113 0024	2	gear wheel (R5002 SWDBR)	
25	0267 113 0025	1	gear selector	
26	0267 113 0026	1	upper drum	
27	0267 113 0027	1	lower drum	
		1	distance housing	
		1	(650/1300 rpm)	
		1	distance housing	
		1	(1500/3000 rpm)	
28	0267 113 0028	1	drill head (R5002 SWDBR)	
29	0267 113 0067	1	screw R 1/8"	
		1	water valve R 1/4"	
		1	(R5002 SWDBR)	
30	0267 113 0030	1	adapter R 1/8"/R 1/4"	
31	0267 113 0031	1	nipple R 1/4"	
		1	(R5002 WDBR, R5002 SWDBR)	
32	0267 113 0032	1	O-ring 11 x 2,5	

AD2L NO PARTS  
AD2A

Spare Parts List  
R-5002 220V 50Hz

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clipper  
Spare Parts List

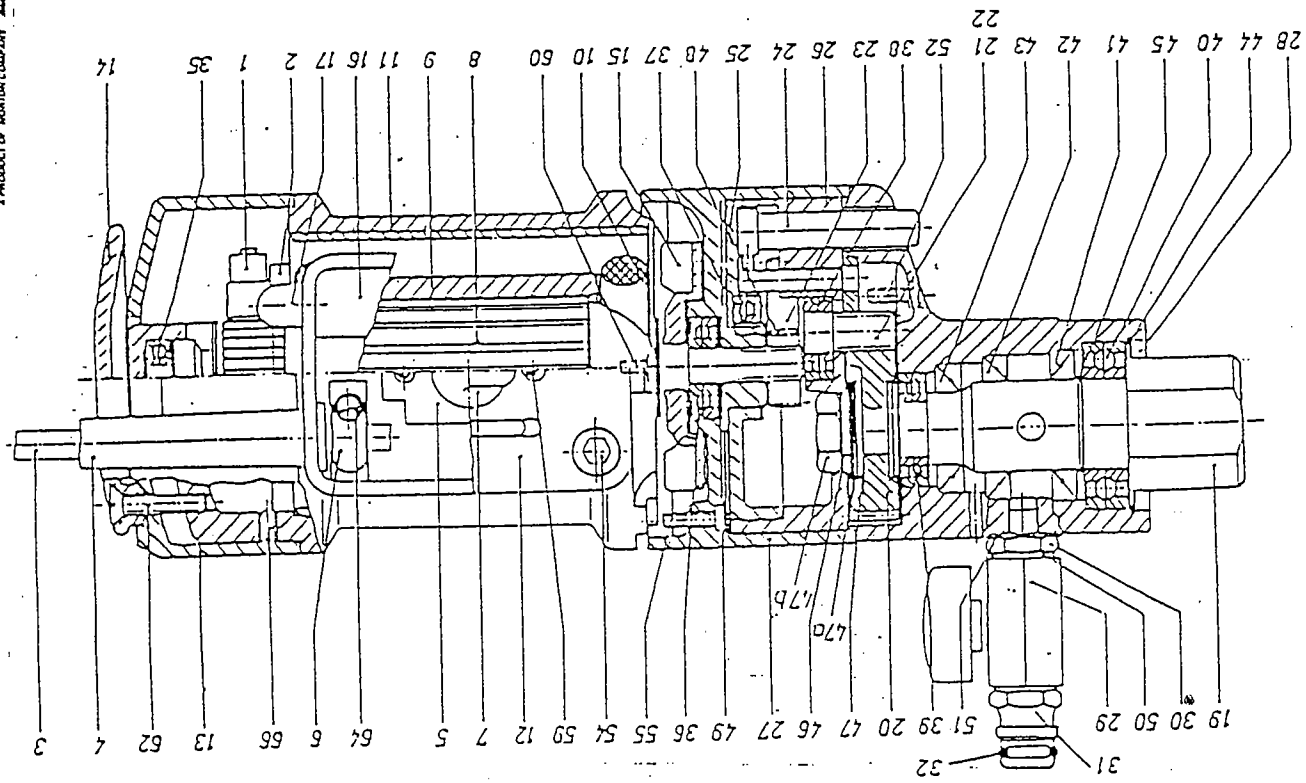
Electric R 5002 220 Volt 50Hz

Bild Nr. Figure	Bestellnummer Item Number	Stock Numbers	Benennung Description	Standard
1	0267 113 0001	2	carbon brushes 220 V - 22	8024 (set of 2)
2	0267 113 0002	1	holder for brushes 220 V	
4	0267 113 0004	1	kink protection	
5	0267 113 0005	1	switch 2-poles 220 V	
6	0267 113 0006	1	pull-out protection	
7	0267 113 0007	1	cover	
8	0267 113 0008	1	armature assy R5002 WDBR 220 V	
9	0267 113 0078	1	armature assy R5002 SWDBR 220 V	
10	0267 113 0009	1	field-coil 220 V	
11	0267 113 0010	1	air-cooler plate	
12	0267 113 0011	1	motor housing	
12	0267 113 0012	1	cover el. Inlet R5-121	
13	0267 113 0081	1	handle cover R5-13F1	
13	0267 113 0013	1	commutator cap	
14	0267 113 0014	1	cover R1-381	
15	0267 113 0015	1	air-cooler R5-141	
16	0267 113 0016	1	motor safety switch 220 V	
17	0267 113 0017	1	dust cup	
--	0267 113 0018	1	gear, drill spindle (R5002 SWDBR)	
19	0267 113 0019	1	drill spindle	
20	0267 113 0020	1	gear	
21	0267 113 0021	1	shaft for gear driven (1st)	
22	0267 113 0022	1	shaft for gear driven (2nd)	
23	0267 113 0023	2	gear wheel (R5002 WDBR)	
24	0267 113 0072	2	gear wheel (R5002 SWDBR)	
25	0267 113 0024	1	gear selector	
26	0267 113 0025	1	gear casing upper	
27	0267 113 0026	1	gear casing lower	
27	0267 113 0027	1	distance housing (650/1300 rpm)	
28	0267 113 0127	1	distance housing (1500/3000 rpm)	
28	0267 113 0028	1	drill head (R5002 SWDBR)	
29	0267 113 0067	1	screw R 1/8"	
29	0267 113 0029	1	water valve R 1/4" (R5002 SWDBR)	
30	0267 113 0030	1	adapter R 1/8"/R 1/4" (R5002 SWDBR)	
31	0267 113 0031	1	nipple R 1/4" (R5002 SWDBR)	
32	0267 113 0032	1	O-ring 11 x 2,5	

Put 228 in material status

NO PARTS ARE

Spare Parts List  
all Electric R 5002 models



parts list  
NO FILE

all Electric R 5002 models

Blid Nr. Figure	Bestellnummer Item Number	Stück Numbers	Benennung Description	Standard
35	0267 113 0035	1	ball-bearing 627 Z	
36	0267 113 0036	1	ball-bearing 6001 Z	
37	0267 113 0037	2	ball-bearing 627	
38	0267 113 0038	2	ball-bearing 6001	
39	0267 113 0039	1	ball-bearing 6002 RS	
40	0267 113 0040	1	ball-bearing 6003 ZRS	
41	0267 113 0041	1	(R 5002 WDBR, R 5002 SWDBR)	
42	0267 113 0042	1	seal-ring A 25 x 42 x 7	
43	0267 113 0043	1	(R 5002 WDBR, R 5002 SWDBR)	
44	0267 113 0044	1	seal-ring A 25 x 40 x 7	
45	0267 113 0045	1	(R 5002 WDBR, R 5002 SWDBR)	
46	0267 113 0046	3	lock-ring I 47 x 1,75	
47	0267 113 0047	2	(R 5002 WDBR, R 5002 SWDBR)	
47a	0267 113 0077	1	lock-ring A 25 x 1,2	
47b	0267 113 0078	1	(R 5002 WDBR, R 5002 SWDBR)	
48	0267 113 0048	2	lock-ring A 25 x 1,2	
49	0267 113 0049	1	(R 5002 WDBR, R 5002 SWDBR)	
50	0267 113 0050	2	spring washer 20 x 10 x 1,1	
51	0267 113 0051	1	friction-washer	
52	0267 113 0052	2	friction-washer	
53	0267 113 0053	2	spring washer	
54	0267 113 0054	2	alien screw H 8 x 20 DIN 912	
55	0267 113 0055	4	alien screw H 4 x 38	
56	0267 113 0056	4	spring washer	
57	0267 113 0057	3	screw H 5 x 30	
58	0267 113 0058	3	spring washer	
59	0267 113 0059	2	screw H 4 x 10	
60	0267 113 0060	2	screw H 4 x 6	
61	0267 113 0061	2	spring washer	
62	0267 113 0062	2	screw H 6 x 30	
63	0267 113 0063	2	spring washer	
64	0267 113 0064	1	screw H 4 x 20	
65	0267 113 0065	1	washer	
66	0267 113 0066	2	threaded pin H 5 x 10	
67	0267 113 0067	3	screw H 4 x 12	
	0267 113 0106	3	spring washer	
	0267 113 0104	1	screw H 4 x 6	
	0267 113 0065	1	washer	
	0267 112 5646	1	spring washer	
	0267 113 0101	80 ml	gear-grease	
	0267 113 0120	1	Gearbox assy 650/1300 RPM	
	0267 113 0121	1	Gearbox assy 1500/3000 RPM	

WHEN ORDERING: SPECIFY MACHINE TYPE & NUMBER; VOLTAGE AND TRANSMISSION SPEED

