



BN PRODUCTS-USA, LLC.

3450 Sabin Brown Road • Wickenburg, Arizona 85390

(800) 992-3833 • (928) 684-2813 • www.bnproducts.com

OPERATING/SAFETY INSTRUCTIONS

DBS-16H IN-PLACE REBAR BENDER



**TO REDUCE THE RISK OF INJURY, YOU MUST READ
AND UNDERSTAND THESE INSTRUCTIONS**

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GENERAL SAFETY RULES

WARNING: PLEASE READ AND UNDERSTAND ALL INSTRUCTIONS.

Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury. The term “power tool” in all of the warnings listed below refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

WORK AREA SAFETY

Keep work area clean and well lit. Cluttered or dark areas invite accidents. Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust. Power tools create sparks which may ignite the dust or fumes.

Keep children and bystanders away while operating a power tool. Distractions can cause you to lose control.

ELECTRICAL SAFETY

Power tools plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools. Unmodified plugs and matching outlets will reduce risk of electric shock.

Avoid body contact with earthed or grounded surfaces such as pipes, radiators, ranges and refrigerators. There is an increased risk of electric shock if your body is earthed or grounded.

Do not expose power tools to rain or wet conditions. Water entering a power tools will increase the risk of electric shock.

Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil sharp edges or moving parts. Damaged or entangled cords increase the risk of electric shock.

When operating a power tool outdoors, use an extension cord suitable for outdoor use. Use of a cord suitable for outdoor use reduces the risk of electric shock.

Do not use AC only rated tools with a DC power supply.

PERSONAL SAFETY

Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication. A moment of inattention while operating power tools may result in serious personal injury.

Use safety equipment. Always wear eye protection. Safety equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.

Avoid accidental starting. Ensure the switch is in the off-position before plugging in. Carrying power tools with your finger on the switch or plugging in power tools that have the switch on invites accidents.

Remove any adjusting key or wrench before turning the power tool on. A wrench or a key left attached to a rotating part of the power tool may result in personal injury.

Do not overreach. Keep proper footing and balance at all times. This enables better control of the power tool in unexpected situations.

Dress properly. Do not wear loose clothing or jewelry. Keep your hands, gloves, hair and clothing away from moving parts. Loose clothes, jewelry or long hair can be caught in moving parts.

If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used. User of these devices can reduce dust-related hazards.

Keep handles dry, clean and free from oil and grease. Slippery hands cannot safely control the power tool.

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POWER TOOL USE AND CARE

Do not force the power tool. Use the correct power tools for your application. The correct power tool will do the job better and safer at the rate for which it was designed.

Do not use the power tool if the switch does not turn in on and off. Any power tool that cannot be controlled with the switch is dangerous and must be repaired.

Disconnect the plug from the power source and/or the battery pack from the power tool before making any adjustments, changing accessories, or storing power tools. Such preventive safety measures reduce the risk of starting the power tool accidentally.

Do not cover air vents or operate the tool on dirt. Use a plywood base under the tool to keep armature and fan clean. If the vents are covered, the motor will overheat and may burn out.

Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.

Power tools are dangerous in the hands of untrained users.

Maintain power tools. Check for misalignment or binding or moving parts, breakage of parts and any other condition that may affect the power tools operation. If damaged, have the power tool repaired before use. Many accidents are caused by poorly maintained power tools.

Keep cutting tools sharp and clean. Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.

Use the power tool, accessories and tool bits etc., in accordance with these instructions and in the manner intended for the particular type of power tool, taking into account the working conditions and the work to be performed. Use of the power tool for operations different from those intended could result in a hazardous situation.

SERVICE

Have your power tool serviced by a qualified repair person using only identical replacement parts. This will ensure that the safety of the power tool is maintained.

SPECIFIC SAFETY RULES

Hold power tool by insulated gripping surfaces when performing an operation where the cutting tool may contact hidden wiring or its own cord. Contact with a "live" wire will make exposed metal parts of the tool "live" and shock the operator.

Use clamps or other practical way to secure and support the workpiece to a stable platform. Holding the work by hand or against your body is unstable and may lead to loss of control.

Never leave the trigger locked "ON". Before plugging the tool in, check that the trigger lock is "OFF". Accidental start-ups could cause injury.

Keep hand away from cutting area and moving parts.

Do not use dull or damaged blades, cutter blocks and rollers. Damaged part(s) can break easily or could cause injury.

Maintain labels and nameplates.

GROUNDING

WARNING: Improperly connecting the grounding wire can result in the risk of electric shock. Check with a qualified electrician if you are in doubt as to whether the outlet is properly grounded. Do not modify the plug provided with the tool. Never remove the grounding prong from the plug. Do not use the tool if the cord or plug is damaged. If damaged, have it repaired by a BN Products-USA service facility before use. If the plug will not fit the outlet, have a proper outlet installed by a qualified electrician.

Grounded Tools (Single Insulated Tool):

Tools with three prong plugs have a three wire cord and three prong grounding plug. The plug must

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be connected to a properly grounded outlet. If the tool should electrically malfunction or break down, grounding provides a low resistance path to carry electricity away from the user, reducing the risk of electric shock. The grounding prong in the plug is connected through the green wire inside the cord to the grounding system in the tool. The green wire in the cord must be the only wire connected to the tool's grounding system and must never be attached to an electrically "live" terminal. Your tool must be plugged into an appropriate outlet, properly installed and grounded in accordance with all codes and ordinances.

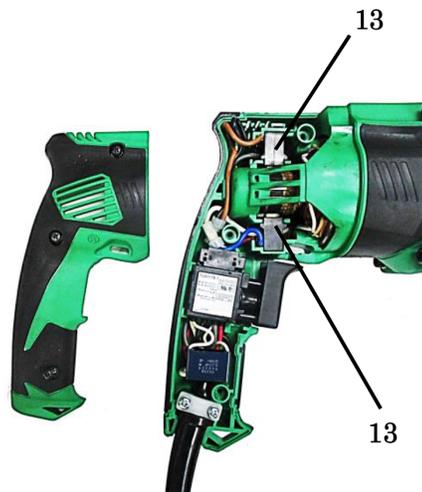
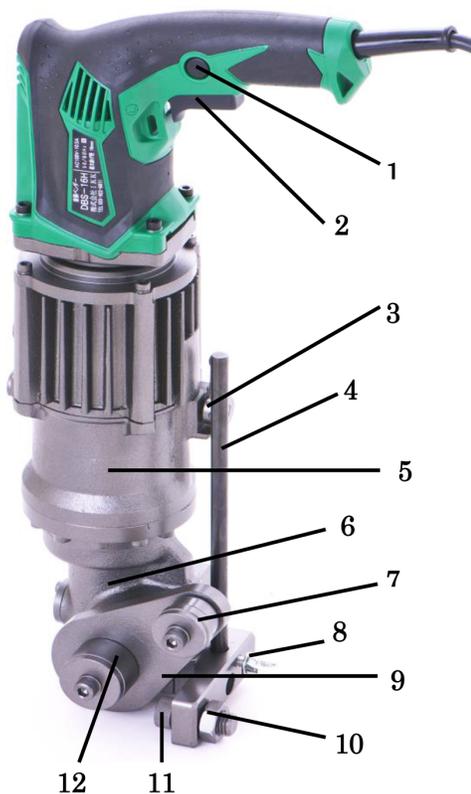
Double Insulated Tools:

Tools with Two Plugs. Tool marked "Double Insulated" do not require grounding. They have a special double insulation system.

EXTENSION CORDS

Grounded tools require a three wire extension cord. Double insulation tools can use either a two or three wire extension cord. As the distance from the supply outlet increases, you must use a heavier gauge extension cord. Using extension cords with inadequately sized wire causes a serious drop in voltage, resulting loss of power and possible tool damage. Refer to the table shown to determine the required minimum wire size.

Recommended Minimum Wire Gauge for Extension Cords		
	100V I 115V (50/60Hz)	230V (50/60Hz)
Cable length	Cable size (AWG)	Nominal diameter
Up to 10m (25ft.)	16	1.0mm ²
Up to 15m (50 ft.)	14	1.25mm ²
Up to 30m (100ft.)	10	1.5mm ²



- 1. Switch lock button
- 2. Trigger-switch
- 3. Release lever
- 4. Measuring rod
- 5. Cylinder
- 6. Housing
- 7. Bending roller
- 8. Wing bolt
- 9. Bending arm
- 10. Nut
- 11. Stopper bolt
- 12. Center roller
- 13. Carbon brush

360° Rotatable between motor and pump case

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PRE-USE CHECKS:

1. **WARNING:** Do not expose the tool to rain or wet conditions. Water entering a power tools will increase the risk of electric shock.
2. Wear safety goggles, safety glasses with side shields or a face shield when using these tools.
3. Check that the power source is appropriate to the tool.
CARE: If voltage is too high, the motor will burn out. If voltage is too low, insufficient power will be generated. Never use DC current.
4. Check that cord is undamaged and that plug is not loose.
CAUTION: Cut or abraded covering could result in a short and electric shock to operator.
5. Check and keep work area clean and enough work space.
6. Check condition of bending roller, center roller and roller bolts - **CHECK FOR CRACKS OR DAMAGE, LOOSEN BOLTS**
7. Screw up roller bolts.
CAUTION: Using loose rollers may result in injury to operator as well as damage to the tool.
8. Before plugging in, make sure that switch lock button is OFF.

CAUTION: If switch lock button is ON, the tool starts as soon as it is plugged in. To disengage the switch lock button, pull trigger-switch to allow the switch lock button pop out.

BENDING REBAR (Max. 16mm 5/8" & Tensile strength 620 N/mm²)

WARNING: RESTRICT USE TO DESIGNATE MATERIALS

This tool is rated for 16mm Max. Tensile strength 620N/mm² Rebar only. There is always a chance that the end of material may break and shoot out, especially if the material harder than those specified. Exceeding designated material specifications greatly increase this risk and will also damage the tool. Do not attempt to use the tool for rebars harder or thicker than those specified.

OPERATING INSTRUCTIONS

CAUTION: Check condition of center roller and bending roller. Screw up those bolts. Using loose rollers may result in injury to operator as well as damage to the tool.

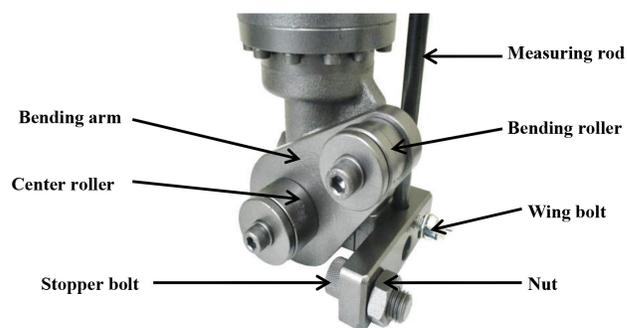
Make sure the unit is plugged into the proper outlet 110V, 115V or 230V 50/60Hz. (Check the voltage of your DBS-16H.)

WARM UP

In cold weather, warm up the tool for 30-60 seconds so that the hydraulic oil reaches the proper viscosity. Pull trigger-switch to move bending arm then release the switch when it has reached its full stroke and returns. Repeat 4-5 times without rebar.

BENDING HEIGHT ADJUSTMENT

Loosen wing bolt, adjust measuring rod and tighten the wing bolt.



STOPPER BOLT ADJUSTMENT AND BENDING

The stopper bolt functions to maintain the rebar in the correct position during bending and must be properly set for each size of rebar before bending.

Check that release lever is in CLOSE position.

Insert a rebar between bending roller and center roller.

Loosen nut, screw out the stopper bolt until it is just touching the rebar and tighten the nut.

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Pull the trigger-switch and keep depressed while the bending arm (roller) moves and bends the rebar. When 90° bend is completed, release the trigger-switch. The bending arm (roller) returns automatically. When a shallower bending angle is required, release the trigger-switch at an intermediate point. The bending arm (roller) stops then turn the release lever to OPEN position, the bending arm (roller) returns to the start position.

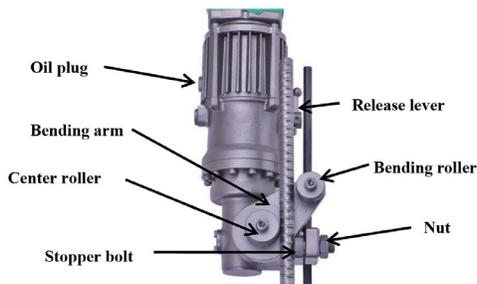
Release lever



CLOSE



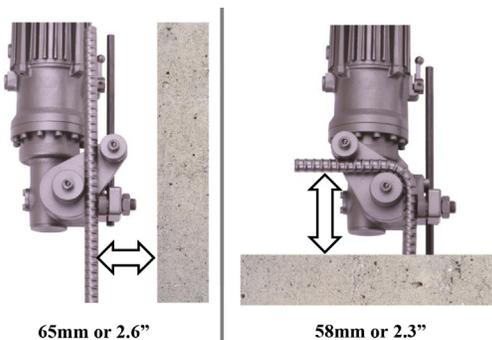
OPEN



In the event that bending arm (roller) should fail to return automatically for any reasons (e.g. the bending arm (roller) has become jammed), turn the release lever to OPEN position. Make sure the release lever is in CLOSE position before resuming operation

CLOSEST BEND TO SURFACE

The closest bend is 65mm to wall and 58mm to floor. Make sure there is adequate space for bending.



65mm or 2.6"

58mm or 2.3"

POINTS OF ATTENTION

1. Switch "OFF". Disconnect tool from outlet when not in use and before cleaning, adjusting or servicing. Do not disconnect plug from outlet by pulling the cord. Always check that the switch is OFF before plugging in.
2. Do not cover air vents.
3. CARE: If vents are covered, motor will overheat and may burn out.
4. If hydraulic oil exceeds 70°C (158°F) in temperature, power will drop. Allow unit to cool before resuming operation. (Be particularly careful in summer, when the aluminum pump case heats up quicker.)
5. If a drop in power is observed and motor is an unusually hot, check carbon brush.

CLEANING

Clean your tool every day, preferably immediately after use.

WARNING: To avoid accidents always disconnect the tool from the power supply before cleaning or performing any maintenance.

1. Wipe or brush away dirt and metal filings. Keep housing and piston free of dirt and iron filings. Pay particular attention to the lower half of the piston, where dirt is more easily accumulated.
2. Once piston has been retracted, pull trigger switch long enough to partially. Unplug unit. Check piston for accumulated dirt and iron filings that may be jamming the piston.
3. Certain cleaning agents and solvents damage plastic parts.

CAUTION: Do not use an air gun: blasting with air can cause metal filings and/or dust to get into eyes and respiratory system. Wipe or brush away all dirt and metal filings.

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OIL-LEVEL CHECK (ADD OIL)

As the tool is hydraulically operated, the oil-level must be checked at frequent intervals, preferably once a year. Failure to maintain the oil at the proper level results in a drop in pressure and loss of power.

CAUTION: Hydraulic oil is highly flammable. Keep away from sparks and open flame. Do not smoke. Hydraulic oil may cause inflammation of the eyes and skin. If ingested, it could cause diarrhea and vomiting. In case of eye contact, rinse in clean water for at least 15 minutes and consult a physician. In case of skin contact, wash thoroughly with soap and water. In case of ingestion, consult a physician immediately.

Do not induce vomiting.

1. Oil should be warm but not hot.
2. If bending arm is still moving, run the bending arm and stop just before it reaches its full stroke and returns.
3. Remove oil-plug and seal-washer (packing). **CAUTION:** Never remove oil-plug when unit is hot or oil will spurt out.
4. Check that oil is level with bottom of plug hole (i.e. that pump case if full to the brim). If oil level is low, top up with fresh hydraulic oil with anti-foam and anti-abrasion properties (ISO viscosity grade VG46, e.g. Tellus46 (Shell), DTE-25 (Mobil) or Uni-Power VG46 (Esso).
5. After topping up, extract air from system. Gently tilt tool lengthwise and return it to a level position. Top up again and tilt in the opposite direction. **CARE:** Tool cannot function properly if oil contains air bubbles.
6. Replace the oil-plug and seal-washer. Run the bending arm until it automatically returns to the starting position.
7. Repeat 2- 6 until the oil is fully added.
8. Check that oil-plug is tightened.

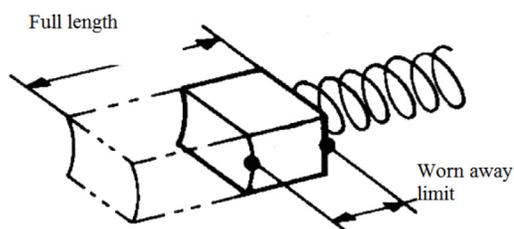
NOTE: Dispose of hydraulic oil in accordance with local regulations. Do not pour into the sea, a river, a lake or drains.

BOLT TIGHTNESS

Once a week, or after every 30 times use, check the tightness of all bolts. Especially those securing housing to the cylinder, bending roller and center roller. Using loose rollers may result in injury to operator as well as damage to the tool.

CARBON BRUSHES

Inspect the two carbon brushes at least once every two months. (Nominal brush life is 200 hours).



CARE: Worn brushes will result in power loss; cause the motor to run hot and irreparably damage the armature.

1. Disconnect tool from electrical outlet.
2. Remove Tail cover. Unscrew both brush caps and pull out carbon brushes.
3. Replace brushes if less than 6mm in length. (We recommend the automatic stop carbon brush for replacement.) Pair of carbon brush : Part#. 7HTK999041 B

OVERHAUL

Return the unit to an authorized distributor for overhaul at least once every two years, sooner if subject to heavy use. Ignorance of proper operating procedures can lead to accidents. If you have any other questions about any procedures, please contact the nearest authorized distributor.

*Specifications are subject to change without prior notice.

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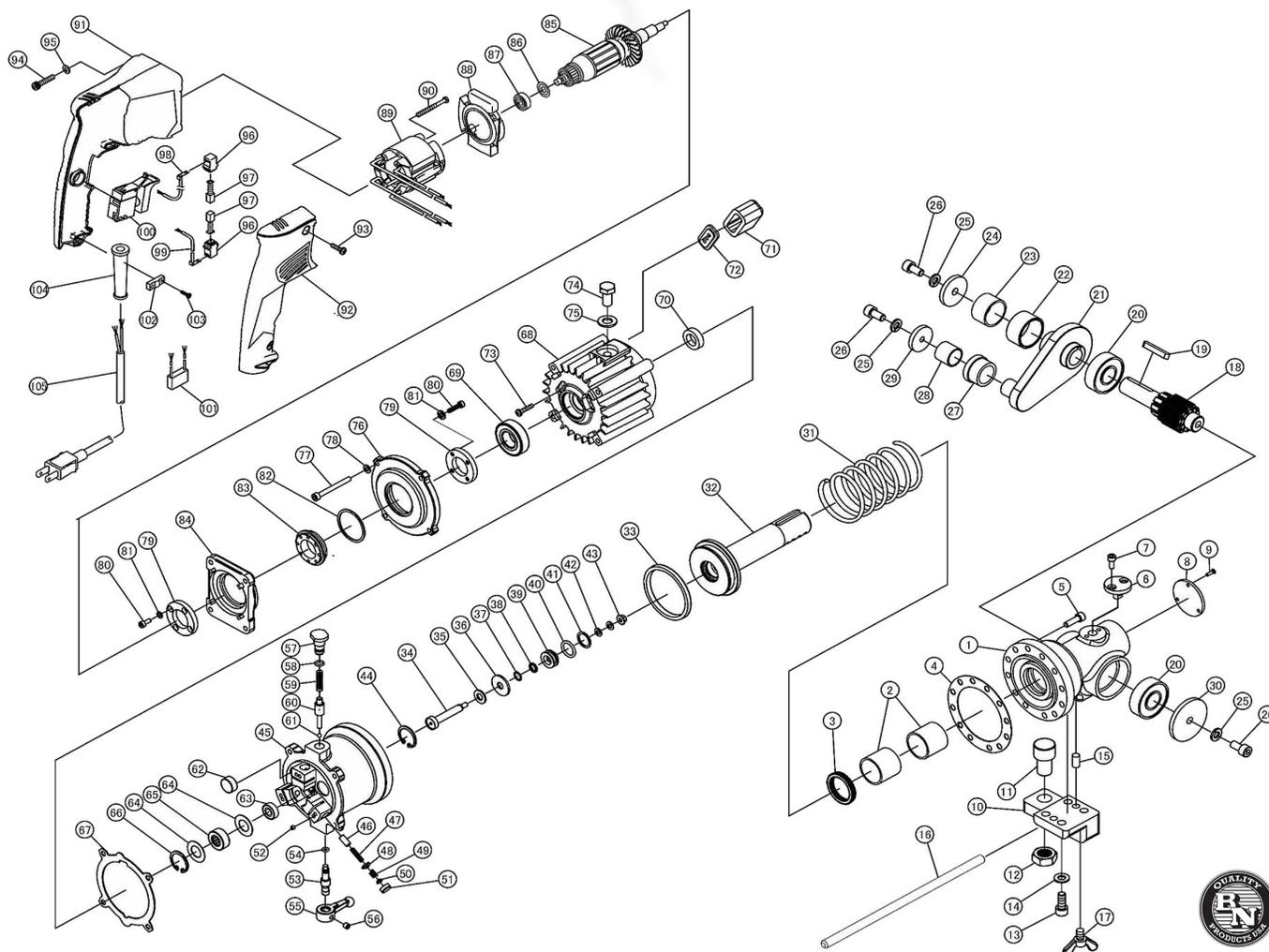


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DBS-16H IN-PLACE #5 REBAR BENDER PARTS GUIDE



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No.	Part Number	Description	Qty
1	1BS1027800	Housing	1
2	7BM3030FB	Bush BM3030FB	2
3	1C16021	SKY Packing (SKY 30)	1
4	1BS4259300	Cylinder packing	1
5	7CB06022	CAP BOLT (M6X22) (DBC-16H)	12
6	1BC4208400	Key (DBC-16H)	1
7	7CB05012	Hexagon socket head cap screw 5 x 12	2
8	1BS4258700	Housing cap	1
9	7FB03010	FLAT HEAD BOLT (M3 x 10)	3
10	1BS3132400	Stopper Stay	1
11	1BC4208200	STOPPER BOLT (DBC-16H)	1
12	7N016S3	Hexagon nut (3 types) 16	1
13	7CB08020	CAP BOLT (M8X20)	4
14	7GW0008	TEETHED WASHER (M8) (DC-32WH)	4
15	7PP10016A	Parallel Pin 10 x 16	2
16	7RD0B10250	Rod	1
17	7WB08012	Wing bolt 8 x 12	1
18	1BS4258900	Pinion	1
19	7K0606038R2H	Key 6 x 6 x 38 (double rounded)	1
20	762042RS	Bearings 62042 RS	2
21	1BS3132600	Swivel Arm	1
22	1BS4259100	Center Roller (39)	1
23	7DUB3020	DU Bush DUB 3020	1
24	1BS4259200	Washer	1
25	7SW008	Spring Washer	3
26	7CB08015	CAP BOLT (M8X15) (DBC-16H)	3
27	1BC4209000	BENDING ROLLER (DBC-16H)	1
28	7DUB2020	DU BUSH (DBC-16H)	1
29	1BC4209102	Washer (DBC-16H) NEW STYLE	1
30	1BS4259000	Pinion Washer	1
31	1BS4258800	Return spring	1
32	1BS3132500	Piston	1

No.	Part Number	Description	Qty
33	1C1604	SEAL PACKING (ODI60- 70-6)	1
34	3AP4224002	Return Valve	1
35	7BW008	Belleville Spring Washer 8	1
36	1CB4104002	GUIDE CLAMP (DCC-1618/2018HL)	1
37	7SPNC8	SPNC PACKING (DCC-1618HL)	1
38	7BRP8B	BACK UP RING P8 (DCC-1618HL)	1
39	1C4152300	Return Valve Guide (DCC- 1618HL)	1
40	7ORP16	O-RING P16 (DCC-1618HL)	1
41	7BRP16B	Backup Ring P16 (DCC-1618HL)	1
42	7SPW005	Flat seat gold (small pills) 5	2
43	7NU005	U Nut M5 (DCC-1618HL)	1
44	7SRH026	SNAP RING H26 (DCC- 1618HL)	1
45	1BS1027900	Cylinder	1
46	1C1971	Ram (+/-0) (DC-16LZ)	3
47	1C1972	Ram return spring (for ϕ 6)	3
48	1C1973	Delivery valve (for ϕ 6)	3
49	1C1331	Deliveries Valve Spring	3
50	1C13352	Spring Guide (NEW STYLE)	3
51	1C13292	Pump Head Seal (11 mm)	3
52	7SS04004	SET SCREW (M4X4) (HB16W/DBC16H)	6
53	3P1013	Needle Valve	1
54	7ORP4	O Ring P4	1
55	3P1014B	Position Stopper B	1
56	7SS06006	Hexagon Socket Set Screw (hollowed point) 6 x 6	2
57	1BS4259500	Pilot stopper	1
58	7ORP7	O Ring P7	1
59	7WT820	Spring	1
60	1BS4259400	Pilot Valve	1
61	7SBTA4.5	Steel ball S4.5	1
62	3P1044	MAGNET FILTER (NEW STYLE)	2

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No.	Part Number	Description	Qty
63	7698	Bearing 698	1
64	1C1325	Bearing guide	1
65	712NQ2410A	Needle bearing (RMAST8)	1
66	1C1326	Snap ring (H27)	1
67	1C1615	Pump case housing (DC-16W)	1
68	1BS2068500	Pump case	1
69	76002VV	Ball Bearing (6002VV) (DC-16W)	1
70	1C1342	OIL SEAL (SC-15-25-7) (DC-16W)	1
71	1C4199300	Air Bag	2
72	1C4199400	Air back nut	2
73	7P204020	Pan Head Screw (2 points) 4 x 20	4
74	1C1304	BOLT, (OIL PLUG) (M10X15)	1
75	7WF10	Seal Washer WF 10	1
76	1BS3132300	Distance piece P	1
77	7CB05100	Hexagon Socket Head Bolt 5 x 100	4
78	7GW005	Giza Washer 5	4
79	3AP4230600	Washer	2
80	7CBS04010	Hexagon Socket Head Cap Screw (low head) 4 x 10	8
81	7GW004	Giza Washer 4	8
82	7JASO20371ATF	O-ring JASO 2037 1A	1
83	1C4257900	Joint Adapter	1

No.	Part Number	Description	Qty
84	3AP3133300	Distance piece M	1
85	7AR2068400	Amateur Assy	1
86	7HTK982631B	Washer (A) 982631	1
87	7608VV	Ball Bearing (7608VV) HB-16W	1
88	7HTK335244B	Fan Guide	1
89	7HTK340849B	Stator 110V	1
90	7HTK961672B	Hexagon Tapping Screw D 4 x 50	2
91	7HTK335241B	Motor housing	1
92	7HTK335242B	Switch cover	1
93	7HTK301653B	Tapping Screw (D4x20) DCC1618	3
94	1C1311B	Cap bolt (M5X25) (DC-20WH)	4
95	7SPW005	Flat seat gold (small pills) 5	4
96	7HTK955203B	Brush Holder	2
97	7HTK999041B	Carbon Brush	1
98	7HTK324537B	Lead wire (A) Brown	1
99	7HTK324538B	Lead Wire (A) Blue	1
100	7HTK323575B	Switch	1
101	7HTK930039B	Condenser	1
102	7HTK937631B	Cord Clip	1
103	7HTK984750B	Flanged Tapping Screw D4 x 16	2
104	7HTK938051B	Cord Armor D 10.1	1
105	7COD0752C050J	Electrical cord 0.75 x 2 C x 5.0 M 110v	1

SPECIFICATION:

MODEL DBS-16H

Power Supply	110V / 115 / 230V AC only
Wattage	1020W
Motor	Double insulated motor
Max. rebar dia.	16mm (5/8")
Bending speed	4 - 5 sec.
Bending radius	R.31.0 mm
Max. tensile strength	620N/mm ²
Bending angle	Up to 90°
Dimensions (Lx WxH)	470 x 145 x 270 mm
Weight	25.35 lbs. (11.5 Kg)

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