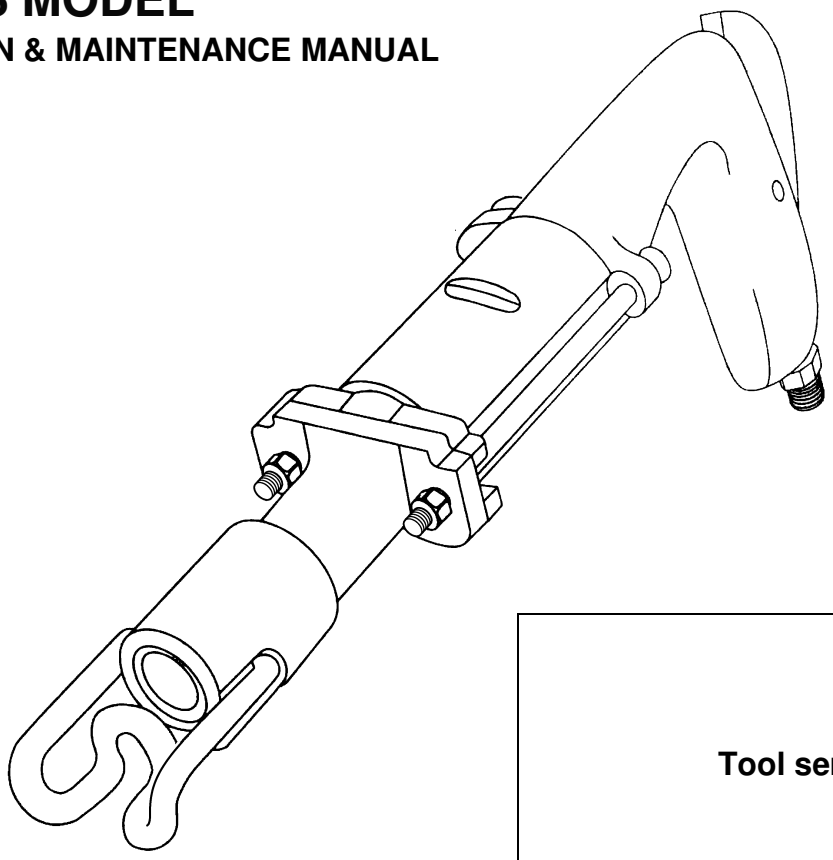
DOOSAN

Portable Power

DCT5JS MODEL

OPERATION & MAINTENANCE MANUAL



Tool serial number

This manual contains important safety information and must be made available to personnel who operate and maintain this machine.

CE

CPN:	**85041903_en**
DATE:	**AUGUST 2013**

EN

PORTABLE POWER PRODUCT WARRANTY

WARRANTY TOOLS

DOOSAN BENELUX SA warrants to its authorized dealers, who in turn warrant to the end-user/owner that each new tools will be free from proven defects in material and workmanship for twelve (12) months from the date of delivery to the end-user/owner.

Service schedules must be adhered to, documented and genuine parts/lubricants must be used where applicable. The warranty does not cover oils and lubricants and latch front head assembly, springs, seals, dampeners.

During the warranty period, the authorized Doosan Infracore dealer shall repair or replace, at DOOSAN BENELUX SA option, without charge for parts and labor of mechanics, any part of the product which fails because of defects in material or workmanship. The end user/owner shall provide the authorized Doosan Infracore dealer with prompt written notice of the defect and allow reasonable time for replacement or repair. DOOSAN BENELUX SA may, at its option, request failed parts to be returned to the factory. Transportation of the product to the authorized Doosan Infracore dealer for warranty work is the responsibility of the end user/ owner.

The warranty does not apply to trade accessories not manufactured by DOOSAN BENELUX SA. The owner shall rely solely on the warranty, if any, of the respective manufacturers thereof. The warranty does not cover replacement of scheduled service items such as oil, filters, tune-up parts, and other high wear items. The warranty does not cover damages resulting from abuse, accidents, alterations, air flow obstructions, or failure to maintain or use the product according to the instructions applicable to it.

DOOSAN BENELUX SA EXCLUDES OTHER CONDITIONS, WARRANTIES OR REPRESENTATIONS OF ALL KINDS, EXPRESSED OR IMPLIED, STATUTORY OR OTHERWISE (EXCEPT THAT OF TITLE) INCLUDING ALL IMPLIED WARRANTIES AND CONDITIONS RELATING TO MERCHANTABILITY, SATISFACTORY QUALITY AND FITNESS FOR A PARTICULAR PURPOSE.

CORRECTIONS BY DOOSAN BENELUX SA OF NONCONFORMITIES WHETHER PATENT OR LATENT, IN THE MANNER AND FOR THE TIME PERIOD PROVIDED ABOVE, SHALL CONSTITUTE FULFILMENT OF ALL LIABILITIES OF DOOSAN TRADING LTD FOR SUCH NONCONFORMITIES, WHETHER BASED ON CONTRACT, WARRANTY, TORT, NEGLIGENCE, INDEMNITY, STRICT LIABILITY OR OTHERWISE WITH RESPECT TO OR ARISING OUT OF SUCH PRODUCT.

THE REMEDIES OF THE END-USER/OWNER SET FORTH UNDER THE PROVISIONS OF THE WARRANTY OUTLINED ABOVE ARE EXCLUSIVE AND THE TOTAL LIABILITY OF DOOSAN BENELUX SA INCLUDING ANY HOLDING, SUBSIDIARY, ASSOCIATED OR AFFILIATED COMPANY OR DISTRIBUTOR WITH RESPECT TO THIS SALE OR THE PRODUCT AND SERVICE FURNISHED HEREUNDER IN CONNECTION WITH THE PERFORMANCE OR BREACH THEREOF, OR FROM DELIVERY, INSTALLATION, REPAIR OR TECHNICAL DIRECTION COVERED BY OR FURNISHED UNDER THIS SALE, WHETHER BASED ON CONTRACT, WARRANTY, TORT, NEGLIGENCE, INDEMNITY, STRICT LIABILITY OR OTHERWISE SHALL NOT EXCEED THE PURCHASE PRICE OF THE PRODUCT UPON WHICH SUCH LIABILITY IS BASED.

DOOSAN BENELUX SA INCLUDING ANY HOLDING, SUBSIDIARY, ASSOCIATED OR AFFILIATED COMPANY AND DISTRIBUTOR SHALL IN NO EVENT BE LIABLE TO THE END USER/OWNER, ANY SUCCESSORS IN INTEREST OR ANY BENEFICIARY OR ASSIGNEE RELATING TO THIS SALE FOR ANY CONSEQUENTIAL, INCIDENTAL, INDIRECT, SPECIAL OR PUNITIVE DAMAGES ARISING OUT OF THIS SALE OR BY ANY BREACH THEREOF, OR ANY DEFECT IN, OR FAILURE OF, OR MALFUNCTION OF THE PRODUCT UNDER THIS SALE, WHETHER BASED UPON LOSS OF USE, LOST PROFITS OR REVENUE, INTEREST, LOST GOODWILL, WORK STOPPAGE, IMPAIRMENT OF OTHER GOODS, LOSS BY REASON OF SHUTDOWN OR NON-OPERATION, INCREASED EXPENSES OF OPERATION OR CLAIMS OF USER OR CUSTOMERS OF THE USER FOR SERVICE INTERRUPTION WHETHER OR NOT SUCH LOSS OR DAMAGE IS BASED ON CONTRACT, WARRANTY, TORT, NEGLIGENCE, INDEMNITY, STRICT LIABILITY OR OTHERWISE

Machine models represented in this manual may be used in various locations world-wide. Machines sold and shipped into European common market countries requires that the machine display the EC Mark and conform to various directives. In such cases, the design specification of this machine has been certified as complying with EC directives. Any modification to any part is absolutely prohibited and would result in the CE certification and marking being rendered invalid. A declaration of that conformity follows:

CE

DECLARATION OF CONFORMITY WITH EC DIRECTIVES

2006/42/CE - 2000/14/CE

We

Doosan Benelux SA
Drève Richelle 167
B-1410 Waterloo
Belgium

Declare that under our sole responsibility for manufacture and supply, the product(s)

Hammer Drill Type DCT5JS

To which this declaration relates, is (are) in conformity with the provisions of the above directives using the following principal standards

EN ISO 12100-1, EN ISO 12100-2, EN ISO 5349-2, ISO 8662-3, EN 792

Issued at Waterloo in 1-2010

P. Edgeller
Technical Manager

CONFORMITY TO NOISE DIRECTIVE 2000/14/EC

Doosan Benelux SA declare that the following Hammer Drill has been manufactured in conformity with the directive as shown.

Directive	Model	Sound Level dB (A)		Vibrations Level	
		Pressure	Power	m/s^2	
2000/14/EC Annex VI Part 1	DCT5JS	95.7	109.7	9.3	TÜV SÜD Czech Nr. 1017

Issued at Waterloo,
5th Declaration 01/2010

P. Edgeller
Technical Manager

SAFETY

Look for these signs on machines shipped to markets in North America, which point out potential hazards to the safety of you and others. Read and understand thoroughly. Heed warnings and follow instructions. If you do not understand, Inform your supervisor.

⚠ DANGER

Red Background
Indicates the presence of a hazard which WILL cause serious injury, death or property damage, if ignored.

⚠ CAUTION

Yellow Background
Indicates the presence of a hazard which WILL or can cause injury or property damage. if ignored.

⚠ WARNING

Orange Background
Indicate the presence of a hazard which CAN cause serious injury, death or property damage. if ignored.

NOTICE

Blue Background
Indicates important set-up, operating or maintenance information.

NOTICE

DCT5JS Hammer Drills are designed for drilling concrete and other demolition work in construction applications.
Doosan Benelux SA is not responsible for customer modifications of tools for applications on which Doosan Benelux SA was not consulted.

⚠ DANGER

IMPORTANT SAFETY INFORMATION ENCLOSED.
READ THIS MANUAL BEFORE OPERATING TOOL.
IT IS THE RESPONSIBILITY OF THE EMPLOYER TO PLACE THE INFORMATION IN THIS MANUAL INTO THE HANDS OF THE OPERATOR.
FAILURE TO OBSERVE THE FOLLOWING WARNINGS COULD RESULT IN INJURY.

PLACING TOOL IN SERVICE

- Always operate. inspect and maintain this tool in accordance with all regulations (local, state, federal and country), that may apply to hand held / hand operated pneumatic tools.
- For safety, top performance, and maximum durability of parts, operate this tool at 90 psig (6.2 bar / 620 kPa) maximum air pressure at the inlet with 1/2" (13 mm) inside diameter air supply hose.
- Always turn off the air supply and disconnect the air supply hose before installing, removing or adjusting any accessory on this tool, or before performing any maintenance on this tool.
- Do not use damaged. frayed or deteriorated air hoses and fittings.
- Be sure all hoses and fittings are the correct size and are tightly secured.
- Always use clean, dry lubricated air at 90 psig (6.2 bar / 620 kPa) maximum air pressure. Dust, corrosive fumes and/or excessive moisture can ruin the motor of an air tool.
- Do not lubricate tools with flammable or volatile liquids such as kerosene, diesel or jet fuel.
- Do not remove any labels. Replace any damaged labels.

USING THE TOOL

- Always wear eye protection when operating or performing maintenance on this tool.
- Always wear hearing protection when operating this tool.
- Keep hands, loose clothing and long hair away from rotating end of tool.
- Anticipate and be alert for sudden changes in motion during start up and operation of any power tool.
- Keep body stance balanced and firm. Do not overreach when operating this tool.
- Tool accessories may continue to impact briefly after throttle is released.
- Air powered tools can vibrate in use. Vibration, repetitive motions or uncomfortable positions may be harmful to your hands and arms. Stop using any tool if discomfort, tingling feeling or pain occurs. Seek medical advice before resuming use.
- Use accessories recommended by Doosan Benelux SA.
- This tool is not designed for working in explosive atmospheres.
- This tool is not insulated against electric shock.

NOTICE

The use of other than genuine Doosan Benelux SA replacement parts may result in safety hazards, decreased tool performance, and increased maintenance, and may invalidate all warranties.

Repairs should be made only by authorised trained personnel. Consult your nearest Doosan Benelux SA Authorised Service Centre.

WARNING LABEL IDENTIFICATION

⚠ WARNING

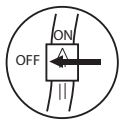
FAILURE TO OBSERVE THE FOLLOWING WARNINGS COULD RESULT IN INJURY.

⚠ WARNING

Always wear eye protection when operating or performing maintenance on this tool.

⚠ WARNING

Always wear hearing protection when operating this tool.



⚠ WARNING

Always turn off the air supply and disconnect the air supply hose before installing, removing or adjusting any accessory on this tool, or before performing any maintenance on this tool.

⚠ WARNING

Air powered tools can vibrate in use. Vibration, repetative motions or uncomfortable positions may be harmful to your hands and arms. Stop using any tool if discomfort, tingling feeling or pain occurs. Seek medical advice before resuming use.

⚠ WARNING

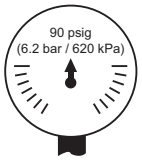
Do not carry the tool by the hose.

⚠ WARNING

Do not use damaged, frayed or deteriorated air hoses and fittings.

⚠ WARNING

Keep body stance balanced and firm. Do not overreach when operating this tool.



⚠ WARNING

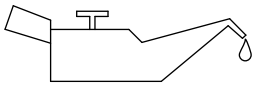
Operate at 90 psig
(6.2 bar / 620 kPa)
Maximum air pressure.

SPECIFIC WARNINGS

- When wearing gloves and operating models with inside trigger, always be sure that the gloves will not prevent the trigger from being released.
- Wear safety shoes, hard hat, safety goggles, gloves, dust mask and any other appropriate protective clothing while operating the tool.
- Do not indulge in horseplay. Distraction can cause accidents.
- Keep hands and fingers away from the throttle lever until it is time to operate the tool.
- Never rest the tool or chisel on your foot.
- Never point the tool at anyone.
- Compressed air is dangerous. Never point an air hose at yourself or co-workers.
- Never blow clothes free of dust with compressed air.
- Be sure all hose connections are tight. A loose hose not only leaks but can come completely off the tool and while whipping under pressure, can injure the operator and others in the area. Attach safety cables to all hoses to prevent injury in case a hose is accidentally broken.
- Never disconnect a pressurised air hose. Always turn off the air supply and bleed the tool before disconnecting a hose.
- The operator must keep limbs and body clear of the chisel. If a chisel breaks, the tool with the broken chisel projecting from the tool will suddenly surge forward.
- Do not ride the tool with one leg over the handle. Injury can result if the chisel breaks while riding the tool.
- Know what is underneath the material being worked. Be alert for hidden water, gas, sewer, telephone or electric lines.
- Use only proper cleaning solvents to clean parts. Use only cleaning solvents which meet current safety and health standards. Use cleaning solvents in a well ventilated area.
- Do not flush the tool or clean any parts with diesel fuel. Diesel fuel residue will ignite in the tool when the tool is operated., causing damage to internal parts. When using models with outside triggers or throttle levers, take care when setting the tool down to prevent accidental operation.
- Do not operate the tool with broken or damaged parts.
- Never start the tool when it is lying on the ground.
- This tool is not designed for working in explosive atmospheres.
- This tool is not insulated against electric shock.

PLACING TOOL IN SERVICE

LUBRICATION



Use a high quality Rock Drill Oil with a flash point between 370 and 450 degrees Fahrenheit (188 and 232 degrees Celsius).

Proper lubrication is the most important single factor responsible for the service life of the Hammer Drill. A Hammer Drill can be severely damaged during the first few minutes of operation if not properly lubricated, it is therefore recommended to put 2 to 3cm³ of oil into the drill's hose. Periodically connection before startup.the entire tool should be disassembled, the parts should be washed in a clean, nontoxic, nonflammable, commercial solvent, dried completely and well oiled before reassembly.

Always use an air line lubricator with this Hammer Drill. A Doosan Air Line Lubricator (CPN 35371111) is recommended for proper lubrication. Install it in the main air supply line within 1.5 meters (5 ft.) of the Hammer Drill.

The oil level in the air line lubricator should be checked at the beginning of each eight hour shift and once during the shift.

Every effort must be made to avoid oil contamination from dirt or other impurities. Oil should be kept in covered containers and stored. if possible, in an area that is relatively dust free.

Before filling the air line lubricator, the area around the filler plug should be wiped clean.

The oil used in the lubricator must be a well refined petroleum lubricating oil. It must be suitably compounded to provide the specified consistency and film strength, and be further compounded to provide the specified steam emulsion number. The latter is required to provide a satisfactory lubricant for such Hammer Drills where water or wet air is encountered. The oil must also be substantially non-corrosive to steel and bronze, and contain little or no sulphur.

Characteristics	**Method**	**Below 20℉ (-6.7 ℃) Light**	**20 to 90℉ (-6.7 to 32.2 ℃) Medium**	**Above 90℉ (32.2 ℃) Heavy**
Viscosity: SUS at 100℉ (37.8℃) SUS at 210℉ (98.9℃)	 ASTM-D2161 ASTM-D2161	 175 Min. 46	 450 Min. 65	 750 Min. 85
cSt at 40℃	ASTM-D445	37 Min.	105 Min.	160 Min.
cSt at 100℃	ASTM-D445	6	11	16
Flash Point, ℉ (℃) Min	ASTM-D92	370 (188)	400 (204)	450 (232)
Pour Point, ℉ (℃) Max	ASTM-D97	-10 (-23)	-10 (-23)	0 (-18)
Viscosity Index, Min	ASTM-D2270	90	90	90
Steam Emulsion No., Min	ASTM-1935-65	1200	1200	1200
Consistency	-	Stringy	Stringy	Stringy
Falex Load Test, lbs. (Min.)	ASTM-D2670	2000	2000	2000
Timken, E. P. Test lbs. (Min.)	ASTM-D2782	30	30	30

The composition of the “film strength” additive is not specified. The additive must be suitable for use with both steel and bronze, and be substantially non-corrosive to both metals.

Except for consistency, all tests must be conducted in accordance with the standard method (latest edition) of the American Society for Testing Metals.

OPERATION

Before starting the Hammer Drill, make certain the Assembly Rod Nuts are tight 8Nm (6lbs.ft.). If the tool is new, check and tighten the Nuts after one or two hours of operation. Running the tool with loose Assembly Rods will cause rapid wear and breakage of parts.

Almost immediately after starting the Hammer Drill, check for presence of oil at the exhaust ports and on the drill steel shank. This is the only assurance that oil is travelling all the way through the Hammer Drill. Break in a new Hammer Drill slowly, usually half throttle for at least 30 minutes. Heating is not unusual in a new Hammer Drill and it should be checked carefully during the first few hours of operation. In most cases, heating will be localized around the front end of the cylinder.

Test this area frequently with the hand. As long as the hand can be held on the part comfortably, it is safe to continue drilling. When the heat is great enough to cause discomfort, stop the Hammer Drill and let it cool. Since lack of oil can cause excessive heating, check again to see that the steel shank is oily.

Collaring the Hole

1. When starting the bole hold the Hammer Drill firmly against the work and use a steel short enough so that the Hammer Drill can be handled comfortably.
2. Open the throttle gradually and drill at half throttle or less.
3. The Hammer Drill should be kept at right angles to the work until the hole is collared, then repositioned for angled drilling.

Drilling the Hole

1. Hold the Hammer Drill with both hands, spread feet apart, and apply a firm steady pressure.

⚠ WARNING

Spread legs and feet clear of the drill steel to prevent injury if a steel breaks. When a steel breaks, the Hammer Drill, with a piece of broken steel projecting from the fronthead, drops to the ground suddenly.

2. Hold the Hammer Drill against the work to get maximum efficiency from the tool. Failure to do this can result in an excessive heat buildup at the front end of the Cylinder which can damage the steel holder. Never back the steel out of the hole at full throttle.
3. The correct amount of pressure for maximum drilling efficiency can be gained only through experience, but generally, the correct pressure is usually recognizable by the rhythmic sound of the exhaust and the free rotation of the steel.
4. Insufficient pressure will cause the Hammer Drill to bounce and may crack carbide inserts.
5. Too much pressure will slow down the Hammer Drill and may result in a stuck steel.
6. Keep the Hammer Drill, steel, and hole aligned at all times. Hold the Hammer Drill with both hands.

⚠ CAUTION

Excess pressure on one side throws the Hammer Drill out of alignment. Misalignment causes a drag on the rotation parts which impairs drilling efficiency by reducing the drilling speed and force of the blow. Misalignment will also cause unnecessary chuck wear, and will soon cause spalling of the piston and chipping or premature breakage of the drill steel.

Cleaning the Hole

Always keep the hole clean and free of cuttings by "blowing" the hole frequently. The bit must work on fresh material. If the bit churns in its own cuttings, drilling speed is reduced, and the possibility of the steel becoming stuck is increased.

Stuck Steel

When drilling moist formations there is often a tendency for cuttings to pack in the hole immediately behind the bit forming a "mud collar", Through action of the rotating bit, wet cuttings pack solidly against the wall of the hole; the condition can become aggravated and cause a stuck steel.

To remove a stuck steel:

1. Remove the Hammer Drill and make an attempt to loosen the steel with a wrench.
2. Do not try to pull a stuck steel with the Hammer Drill. Heavy thrust loads can damage front end parts or loosen the bit from the steel.

To prevent a stuck steel:

1. Blow the hole often.
2. Keep the bit working against fresh material.

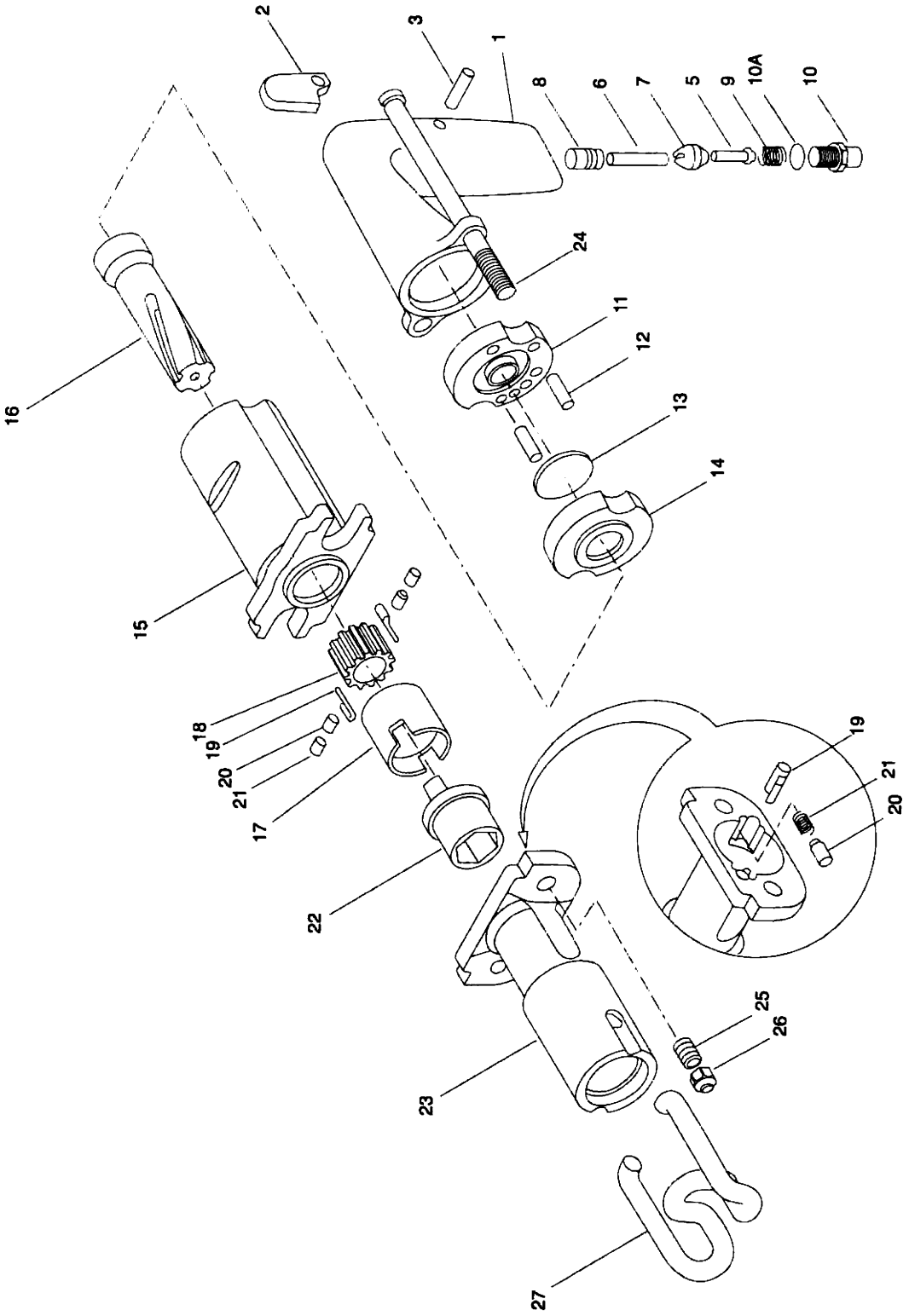
Suggestions for Drillers

1. Never pound on a stuck steel. Nothing is accomplished, and the drill and bit may be permanently damaged in the process.
2. Never retract the Hammer Drill at full throttle.
3. Never strike the Hammer Drill with tools. The cylinder or other part may become dented or damaged.
4. Never try to repair the Hammer Drill on the job. Take it to a repair shop.
5. Never drag a Hammer Drill along the ground as the exhaust port and other openings will scoop up dirt.
6. Always clear the air supply line before attaching it to the Hammer Drill. Purging the line will prevent moisture, pipe scale and other foreign matter from being carried into the Hammer Drill with the air.
7. Always be sure the Hammer Drill is well lubricated. Adjust the line oiler so that the shank of the steel always shows an oil film but does not cause fogging.
8. Always keep the assembly rods tight and at an equal tension.
9. Always keep the Hammer Drill aligned with the drill steel and hole.

PLACING TOOL IN SERVICE

Care and Use of Bits

1. Be certain the bit fits on the taper of the steel.
2. Never approach the material with the Hammer Drill running. Position the Hammer Drill carefully and collar the hole at reduced throttle. This prevents damage to bit inserts.
3. Always keep the Hammer Drill fed up to the work. Insufficient feed pressure will cause the bit to become loose on the steel and will cause inserts to tear loose.
4. Always maintain alignment between the Hammer Drill and the hole.
5. Never allow the hole to become filled with loose cuttings. Blow the hole frequently.
6. Never retract the Hammer Drill at full throttle, use part throttle.
7. Never force or broach the bit into a hole.
8. Don't rough handle steels with bits on.
9. Never run a dull bit.
10. Remove the bit by pulling it from the steel.
    Never clamp the bit in vice jaws. The squeeze caused by clamping will only tighten the bit on the steel.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MAINTENANCE

		CPN
	Grip Handle Assembly	
1	Grip Handle	03764909
2	Throttle Lever	03764917
3 •	Throttle Lever Pin	03764230
5 •	Throttle Valve Pin	03764289
6 •	Throttle Valve Stem	03764263
7 •	Throttle Valve Face	03764271
8	Throttle Valve Stem Bushing	03764248
9 •	Throttle Valve Spring	03764297
10	Inlet Bushing Assembly	03771458
10A •	Inlet Bushing Seal	03768843
11	Valve SeaL	03765013
12 •	Valve Pin (2)	03765021
13 •	Valve	03764537
14	Valve Cap	03765047
15	Cylinder	03765062
16	Piston	03765054
17	Chuck Sleeve	03765II2
18	Ratchet Gear	03765070
19 •	Ratchet Key (2)	03765088
20 •	Ratchet Key Pin (2)	03765096
21 •	Ratchet Key Pin Spring (2)	03765104
22	Nozzle	03765120
23	Barrel.	03765153
24	Assembly Rod (2)	03765005
25	Assembly Rod Spring (2)	03765138
26	Assembly Rod Nut (2)	03765146
27	Retainer	03764339
†	Nameplate	22113013

† Not illustrated.

• Indicates Tune-up Kit part.

⚠ WARNING

Always wear eye protection when operating or performing maintenance on this tool. Always turn off the air supply and disconnect the air supply hose before installing, removing or adjusting any accessory on this tool or before performing any maintenance on this tool.

LUBRICATION

Use only a high quality Rock Drill Oil with a flash point between 370°F and 450°F (188°C and 232°C) and lubricate as instructed in the section Placing the Tool in Service.

DISASSEMBLY

General Instructions

1. Do not disassemble the tool any further than necessary to replace or repair damaged parts.
2. When grasping a tool or part in a vice, always use leather-covered or copper-covered vice jaws to protect the surface of the part and help prevent distortion. This is particularly true of threaded members and housings.
3. Do not remove any part which is a press fit in or on a subassembly unless the removal of that part is necessary for repairs or replacement.
4. Do not disassemble the tool unless you have a complete set of new gaskets and O-rings for replacement.
5. Never attempt extensive maintenance or major repairs in the field; always send the Hammer Drill to the repair shop.
6. Clean the exterior of the Hammer Drill before disassembly.
7. Provide a clean work area for disassembling the Hammer Drill.
8. Use a lead or babbitt hammer, if necessary, to loosen exterior parts. Use a brass rod or soft drift. for removing interior parts.
9. Handle all parts carefully. Hardened parts may chip or break if dropped on a hard surface.
10. Probe all parting to loosen and clean out all foreign matter. Place small parts in a clean box to prevent loss.

Disassembly of the Hammer Drill

⚠ CAUTION

In the following step, do not exert extreme pressure on the Handle. The Handle can be cracked if the vice is tightened excessively.

1. Grasp the Handle (1) firmly in leather covered or copper covered vice jaws with the Barrel (23) upward.
2. Remove the two Assembly Rod Nuts (26) and Assembly Rod Springs (25).

⚠ CAUTION

When separating the front end from the Housing in the next step, the Piston (16) is free to drop out of the Cylinder. Do not allow it to fall on a hard surface.

3. Grasping the Cylinder (15), carefully lift the assembled front end from the Handle.
4. Lift the Valve Cap (14), Valve (13) and Valve Seat (11) from the Handle and remove the Handle from the vice.
5. If the Valve Pins (12) require replacement, press the two Valve Pins from the Valve Cap.
6. Remove the two Assembly Rods (24) from the Handle.
7. Separate the Cylinder from the Barrel (23). If the Piston remained in the Cylinder, remove it.
8. Using needle nose pliers, pull the two Ratchet Keys (19) from the Barrel.
9. Slide the Ratchet Gear (18) out of the Barrel.
10. Using needle nose pliers, remove the two Ratchet Key Pin Springs (21) and the two Ratchet Key Pins (20) from the recesses in the inner wall of the Barrel.
11. Slide the Chuck Sleeve (17) and Nozzle (22) out of the Barrel.
12. Using a wrench, remove the Inlet Bushing Assembly (10) from the Handle. Remove the Inlet Bushing Seal (10A) from the Bushing.
13. Remove the Throttle Valve Spring (9), Throttle Valve Pin (5), Throttle Valve Face (7) and the Throttle Valve Stem (6).
14. If the Throttle Valve Stem Bushing (8) requires replacement, press the Throttle Lever Pin (3) from the Handle and remove the Throttle Lever (2). Using an arbor press and a rod that fits into the throttle lever slot, press the Bushing out of the Handle through the Inlet Bushing opening.

ASSEMBLY

General Instructions

1 When grasping a tool or part in a vice, always use leather covered or copper covered vice jaws to protect the surface of the part and help prevent distortion. This is particularly true of threaded members and housings.

2 Clean, and coat each part with a thin film of oil before assembly.

3 Apply a film of O-ring lubricant to all O-rings before final assembly.

4 Except for press fits, parts should fit together easily. If force is required to assemble parts, the parts are out of alignment and must be correctly aligned to prevent binding and damage.

MAINTENANCE

Assembly of the Hammer Drill

1 If the Throttle Valve Stem Bushing (8) was removed, press a new Bushing into the Handle (1).

2 Position the Throttle Lever (2) in the Handle and secure it by pressing the Throttle Lever Pin (3) into the Handle and through the Throttle Lever.

3 Insert the Throttle Valve Stem (6) into the Throttle Valve Stem Bushing.

4 Position the slotted end of the Throttle Valve Face (7) against the Throttle Valve Pin.

5 Install the smaller diameter end of the Throttle Valve Spring (9) on the short hub of the Throttle Valve Pin (5). Using the Spring to hold the Pin, install the long end of the Throttle Valve Pin into the Throttle Valve Face.

6 Install the Inlet Bushing Seal (10A) on the Inlet Bushing (10).

7 Thread the Inlet Bushing Assembly into the Handle and tighten it to 12 Nm (9 lbs.ft.) torque.

8 Grip the front end of the Barrel (23) very lightly in leather covered or copper covered vice jaws with the bit end downward.

9. Insert the Nozzle (22) into the Barrel from the handle end of the Barrel.

10. Insert the Chuck Sleeve (17) into the Barrel, making certain the two hubs on the leading end of the Sleeve mesh with the recesses in the end of the Nozzle.

11. Using needle nose pliers, insert one of the Ratchet Key Pin Springs (21) into the hole in the inner wall of the Barrel.

12. Position the small diameter end of the Ratchet Key Pin (20) inside the Spring.

13. While compressing the Spring with the Pin, insert the Ratchet Key (19), flat end first, into the lengthwise groove in the Barrel. Slide the Key to the end of the groove capturing the Spring and Pin between the Ratchet Key and the wall of the Barrel.

14. Repeat steps 11, 12 and 13 on the opposite side of the Barrel.

15. Push both Ratchet Keys toward the wall of the Barrel and install the Ratchet Gear (18) in the Barrel.

16. Insert the Piston (16) into the Cylinder (15).

17. While grasping the protruding shaft of the Piston and supporting the Cylinder, engage the two spiral grooves of the Piston with the internal teeth of the Ratchet Gear.

18. Reach into the front end of the Barrel and apply firmer pressure against the Nozzle to prevent it from rotating. At the same time, rotate the Piston and Ratchet Gear until the two straight grooves of the Piston engage the internal teeth of the Nozzle or Chuck Sleeve. When properly oriented, the Piston and Cylinder will move forward until the Cylinder butts against the Barrel.

19. If the Valve Pins (12) were removed at disassembly, press the two Valve Pins into the Valve Seat (11) until they stop against the bottom of the hole. There are five holes in the bottom half of the Valve Seat. Press the Pins, one on each side, into the two holes in the lower half of the Valve Seat nearest the Assembly Rod clearance grooves.

20. Install the Valve (13) in the counterbore of the Valve Seat.

21. Align the holes in the Valve Cap (14) with the holes in the Valve and, with the hub end trailing, slide the Valve Cap onto the Valve Pins and against the Valve and Valve Seat.

22. Position the Valve Cap, Valve Seat and Valve against the rear of the Cylinder.

23. Position the assembled Handle (1) against the Valve Seat and slide Assembly Rods through the Handle and the Barrel adjusting all parts requiring alignment.

24. Grasping the Barrel, and with pressure against the Assembly Rods, carefully remove the tool from the vice and stand the tool upright on its Handle on a workbench.

25. Install the Assembly Rod Springs (25) and Assembly Rod Nuts (26) on the Assembly Rods. Tighten the Nuts evenly to 8Nm (6lbs.ft.) torque.

FAULT FINDING GUIDE		
Fault	**Probable Cause**	**Solution**
Hammer Drill will not start	Plugged exhaust ports	Dismantle the Hammer Drill and clean out all ports and air passages.
	Valve Seat is stuck due to gummy oil	Remove the assembled valve and Valve Seat and clean the parts. Never use dirty oil or oil that does not conform to the recommended specifications.
	Frozen piston due to improper lubrication	Disassemble the Hammer Drill and remove the Piston. Repair the piston by placing in a high speed lathe and dressing it with fine emery cloth. Never run the Hammer Drill without the proper lubricating oil in the lubricator.
	Assembly Rods tightened unevenly causing binding	Check the Hammer Drill for correct assembly and tighten the Assembly Rod Nuts evenly to 8Nm (6lbs.ft).
Hammer Drill loses power rapidly	Restriction in air supply line	Remove all kinks or sharp bends in the air supply line.
	Air hose is too long	Keep the air supply hose as short as possible - under 15 m (50 ft).
	Air hose diameter too small	Use a 13 mm (1/2") inside diameter air supply hose.
Hammer Drill lacks power	Low air supply pressure	The air supply pressure at the tool should be 6,2 bar (90 psig).
	Running on Fronthead cushion	Maintain a constant pressure on the Hammer drill. Keep the steel against the work.
	Plugged air passages	Disassemble and clean out all ports and air passages.
	Lack of lubricating oil	The Hammer Drill is getting adequate lubrication when a thin film of oil can be detected on the shank end of the steel. Check the Lubricator and refill if necessary
	Short drill steel shank due to wear or regrinding	Install a new drill steel.
	Plugged Inlet Bushing Assembly	Clean the screen in the Inlet Bushing Assembly.
Drill steel does not rotate; rotation is weak	Steel is binding in hole	Apply correct amount of down pressure to the Hammer Drill. Keep the Hammer Drill, drill steel and hole in alignment. Replace worn bits.
	Worn rotation parts - Piston, Ratchet Gear, Ratchet Key, etc.	Replace the worn parts with new parts.
New Hammer Drill overheats	New Hammer Drill may overheat at the front end of the Cylinder	Run the new Hammer Drill at less than full throttle until it is broken in. Adjust the Lubricator to provide an adequate supply of oil.

FAULT FINDING

FAULT FINDING GUIDE		
Fault	**Probable Cause**	**Solution**
Tool overheating after break-in period	Running on Fronthead cushion	Apply sufficient down pressure on the Hammer Drill to keep the bit feeding into the rock.
	Piston not hitting shank because shank is short	Install a new drill steel.
	Pulling steel at full throttle	Use as little throttle as possible when pulling steels to avoid running on the fronthead cushion.
	Lack of lubrication or improper lubricating oil	If the Hammer Drill is receiving adequate lubrication, a thin film of oil will be detected on the steel shank. Check the oil level in the Lubricator and refill if necessary.
Slow drilling speed	Dull bit	Replace the drill bit.
	Cuttings not being removed from hole	Blow air frequently to keep bit working on fresh material.
	Hammer Drill and steel are DOL aligned with the hole. Steel or bit is binding	Check alignment while drilling to prevent binding.
Erratic or sluggish operation	Lubricating oil too heavy, slowing down valve action	Use only the recommended lubricating oil.
	Gummed oil or dirt in operating parts	Disassemble the tool and clean out dirt and gummy residue. Service the Hammer Drill with clean oil. Protect the tool from dirt when idle.
	Dirty Inlet Bushing Assembly	Clean the screen in the Inlet Bushing Assembly.
Drill steel is stuck	Driving steel after it is dull or has lost its gauge	Do not force a dull bit. Sharpen the bit or replace it with a new bit.
	Cuttings are not being blown from the hole	Blow holes frequently to keep the hole clear of cuttings.
	Steel is misaligned with hole causing binding	Keep Hammer Drill, steel and hole in alignment at all times.
Chipping or breakage of Piston	Drill steel shank is too hard or rounded on the end, causing minimum contact with the striking face of the Piston	Replace the drill steel. One bad drill steel shank can ruin many Pistons.
	Heat cracking due to faulty lubrication	Keep the Hammer Drill well lubricated with proper type of oil.
Assembly Rod breakage	Uneven tension on Assembly Rods or loose Assembly Rods	Keep the Assembly Rod Nuts Light and at an even torque. Tighten Assembly Rod Nuts alternately.
Freezing at exhaust ports	Excessive moisture in the air supply line (Usually occurs in low ambient temperatures)	Install moisture traps in the air supply line or add anti-freeze lubricant.
Fogging	Excessive moisture in the air supply line	Clean out the air lines. If moisture traps are installed in the air supply line. drain the moisture.
	Excessive lubrication	Adjust the lubricator for the proper rate of lubricant feed.

NOTICE

SAVE THESE INSTRUCTIONS
DO NOT DESTROY

SPECIFICATIONS FOR DCT5JS HAMMER DRILL	
Model	DCT5JS
Chuck Size	19 hex x 50
Cpn	01338524
Overall Length mm (in)	408 (16)
Overall Width mm (in)	85 (3.35)
Weight Kg (lbs)	5 (11)
Max Working Pressure Bar (psi)	6,2 (90)
Air Consumption M^3/min (CFM) @ 6 Bar	0,48 (17)
Certified Vibration Level M/s^2 @ 6 bar	9.3
Certified noise Level L_{WA}	109.7
Impact Frequency / min	2650
Rotation (RPM)	300
Assembly Rod Nut Torque Nm (lbs.ft)	8,0 (6.0)
Air inlet Connector Torque Nm (lbs.ft)	12 (9)

Portable Power

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