

TROUBLE	PROBABLE CAUSE	REMEDY
ERRATIC OR SLUGGISH OPERATION	Rock drill oil is heavy, gumming the valve and slowing valve action	Use oil of the proper viscosity
	Gummed oil or dirt in operating parts	Disassemble, clean, and examine parts for damage. Use clean oil from clean containers. Plug openings into the drill with rags when moving or storing the drill.
	Stuck or broken operating parts	Disassemble and inspect parts. Replace damage parts. Clean all parts thoroughly.
DRILL LACKS POWER	Short steel shank or drill piston has been shortened through wear or regrinding of the striking face.	Check drill shanks to ensure the length below the collar is 4 1/4". Grinding of striking face should shorten overall piston length a maximum of 1/8".
	Air screen plugged with dirt.	Check air connection screen regularly.
	Restrictions in hose or pipeline.	Check air lines for obstructions (bend in hose).
	Low air pressure.	Air pressure should be a minimum of 80 psi at the drill site, and of sufficient volume, 250cfm.
	Lack of lubricating oil.	Fill oil line lubricator at beginning of the shift and check half-way through shift. Proper lubrication is demonstrated by "oil-wetting" of the drill shank.
	Loss of cushion worn buffer ring lining, worn piston or cylinder lining	Check condition of parts replace damage or worn parts. Check for lack of lubrication.
SLOW DRILLING SPEED	Low air pressure.	Air pressure should be a minimum of 80 psi at the drill site, and sufficient volume 250cfm.
	Cuttings not being removed from hole.	Adjust direct blow to remove cuttings.

	Plugged drill steel or water tube.	Clean out drill steel and passage in the drill bit, otherwise bit will overheat and be ruined. Avoid crowding (over feeding) drill.
	Drill not aligned with hole, steel binding in hole.	Check alignment while drilling, this is important to prevent binding of working parts and to avoid stuck drill steel.
	Plugged air screen.	Clean screen regularly.
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DRILL DOES NOT ROTATE OR HAS WEAK ROTATION	Loss of bit gauge causing binding in the hole.	Gauge grind bits, replace worn out bits.
	Ratchet pawls worn, slipping in ratchet ring.	Turn pawls over in rifle bar or install new pawls. Check tension of pawl springs.
	<u>Rifle nut badly worn.</u>	Install new rifle nut. Check lack of lubrication.
	Rifle bar badly worn.	Install new rifle bar. Check lack of lubrication.
	Worn chuck driver.	Install new chuck driver.
	Piston flutes badly worn, or chuck driver nut worn.	Replace piston and/or chuck driver nut. Check for lack of lubrication.
	Side rods tightened unevenly, piston binding in chuck driver.	Tighten side rods uniformly. Chuck parts should turn freely by hand in assembled drill.
CUTTINGS NOT BEING REMOVED FROM HOLE	Lack of lubrication front end.	Check line oiler for proper function. Should dispense one pint of oil every 6 hours.
	Plugged drill steel or water tube.	Clean out drill steel and passages in the drill bit. Use feed pressure cautiously in soft formations.
	Low water pressure.	Check water line restrictions. Crimped hose.

MUFFLER FREEZING	Excessive moisture in air supply.	Blow out air lines, increase oil flow from air line lubricator. Install water traps in air supply line. Drain existing water traps.
	Water leak into air line due to faulty seams in pipeline.	Replace defective pipe coupling seals.
	Broken water tube in rock drill.	Install new water tube in rock drill.
TROUBLE	PROBABLE CAUSE	REMEDY
DRILL OVERHEATS	Lack of lubrication.	Check function of line oiler. Clean out oil reservoir and fill line oiler regularly.
	Wrong type of oil.	Check specification of oil supply, use rock-drill oil suited to ambient temperature.
	Machine allowed to run with insufficient feed pressure, allowing piston to build up cushion between piston and striking bar, heating up the front end of the drill.	Increase feed pressure when drill rods are “free-wheeling” (turning excessively fast). Decrease feed pressure when drill rods are binding or sticking in the hole.
	Pulling steels with rock drill in full throttle, builds up cushion in the front end of the drill and drill overheats.	Use as little throttle as necessary to loosen the drill steel when pulling out of a completed drill hole.
STUCK DRILL STEEL	Water pressure too low.	Check water line restriction, crimped hose.
	Drilling with dull bits or bits with poor gauge clearance.	Use sharp bits with proper gauge clearance.
	Crowding (over-feeding) drill steel in soft rock formation.	Set the leg feed pressure lower in softer rock formations.
	Drill cuttings not being removed.	Stop and blow hole if drop in water volume exiting hole is noticed. Clear cuttings.

	Steel binding in hole due to misalignment of drill rods.	Check drill alignment often during drill cycle. Adjust feed pressure to maintain direction.
	Plugged water tube or drill bit.	Clean out water tube and drill bit or steel.
FOGGING FROM ROCK DRILL EXHAUST	Broken water tube.	Replace water tube.
	Excessive water in air supply.	Blow out air lines, drain water from traps in supply lines
	Excessive lubrication	Adjust feed of air line oiler. Check viscosity of rock drill oil against ambient temperature
TROUBLE	PROBABLE CAUSE	REMEDY
DRILL WILL NOT START	Dirt in automatic valve assembly, valve gummed by oil.	Send drill to drill shop. Dismantle drill and clean automatic valve and air passages.
	Auto-valve flooded by oil.	Use rock drill with viscosity suited to ambient temperature of work site.
	Plugged exhaust ports.	Check material plugging ports, check for excess water, rust, scale, or dirt in air lines. Drain water traps, blow hose. Place on cup of oil in intake air hose and blow drill.
	Frozen muffler.	Drain water traps in air line, blow hoses.
	Plugged air screen or air passage.	Check air intake screen for pipe rust, scale or dirt, or gummy oil. Use correct rock drill oil, blow air lines. If drill will still not start return to shop to be dismantled.
	Stuck or seized piston.	If piston does not come free, check outside of drill cylinder for hammer marks, dents and/or dents in housing. If detected return to drill shop for repair
PISTON CYLINDER BUFFER RING SCORED	Side rod tightened unevenly binding of parts in the rock drill.	Replace any damaged parts and tighten side rods evenly.

	Insufficient lubrication.	Make sure air line oiler is installed no more than 12' from drill, and check feed rate of oil and functioning of the line oiler.
STUCK OPERATING PARTS.	Dirt has entered drill from air line.	Disconnect air feeder hose, and blow air lines. Clean screen in air intake. Take care when connecting hoses to keep dirt out.
	Dirt has entered drill through exhaust ports while in storage.	Take care storing drill between use, do not throw in muck pile. Interconnect hoses and place oiled rag in chuck for storage.
	Gummed or dirty rock drill oil.	Clean lubricator fill plug before removal and fill with clean oil. Recap lubricator when full.
	Piston cylinder bore or buffer ring liner scored.	Send drill to shop, check cylinder for damage, replace if necessary. Always install a new piston in a new cylinder.
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PISTON CHIPPED OR BROKEN	Buffer ring lining worn, piston not hitting drill steel squarely.	Install new buffer lining, replace piston. Check squareness of ends drill shanks.
	Worn chuck parts, caused by poor alignment of steel with the hole.	Replace worn parts and piston. Check the squareness of the ends of drill steel shanks
	<u>Insufficient lubrication</u> or wrong type of lubricant.	Check specifications (viscosity) of oil used. Set line oiler to proper flow rate. Replace piston and any damaged parts.
	Side rods not tightened evenly, piston binding in chuck nut.	Replace piston, tighten side rods alternately and uniformly.
BRONZE CUTTINGS IN WORKING PARTS OF ROCK DRILL	Rifle bar flutes worn cuts rifle nut.	Replace rifle bar and rifle nut. Check cylinder bore for scoring or other damage.

	Side rods not tightened evenly causing binding and scoring of rifle nut or chuck driver nut.	Replace damaged parts. Tighten side rods alternately and uniformly. Check cylinder for damage if bronze is found in the piston travel area.
	Rifle nut or chuck driver nut worn or damaged from insufficient lubrication. Nuts appear burned (blackened).	Check functioning of the air line oiler, check oil specifications. Replace damaged parts. Check drill cylinder for damage, if bonze is found in the piston travel area.
EXCESSIVE WEAR OF ALL PARTS	Faulty or insufficient lubrication.	Check cylinder bore for excessive wear, replace if necessary, replace all affected parts. Check air line lubricator for proper installation (12' from drill), proper function, and flow rates. Clean lubricator fill plug before removal and fill with clean oil. Promptly recap lubricator when full.
	Dirt or grit in working parts causing scoring, and/or premature failure of parts.	Check cylinder bore for damage. Replace all damaged parts, clean remaining parts in clean solvent, coat with oil before replacing in drill. Plug all openings into drill with oiled rags, interconnect hoses before putting machine in storage, or returning to work site.
TROUBLE	PROBABLE CAUSE	REMEDY
PISTON CYLINDER OR BUFFER RING SCORED	Side rods tightened unevenly, causing binding	Check cylinder bore, replace if necessary, replace damaged parts, tighten side rods alternately and uniformly.
	Faulty or insufficient lubrication.	Check cylinder bore for excessive wear, replace if necessary, replace all affected parts. Check air line lubricator for proper installation (12' from drill), proper function, and flow rates.
EXTENSIVE DAMAGE TO ROTATING PARTS	Cylinder bore, buffer ring or piston badly worn causing loss of air cushion in piston travel, lack of compression and piston striking bottom on buffer ring assembly.	Replace badly worn or damaged parts. Never run rock drill once the air cushion is lost in piston travel area, due to lack of compression. Serious damage to drill cylinder, front end and major components of rock drill will results from continued operation.
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