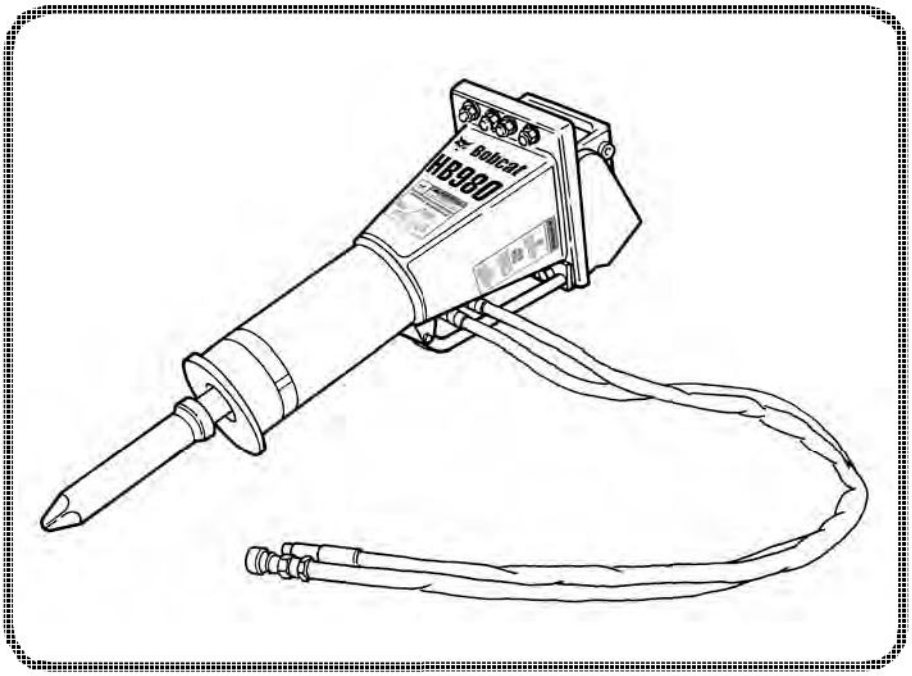
Bobcat®

Service Manual
HB Series Hydraulic Breaker

(Breaker HB280) S/N A5T500101 & Above
(Breaker HB380) S/N A01Q00101 & Above (Europe Only)
(Breaker HB580) S/N A00V00101 & Above (Europe Only)
(Breaker HB680) S/N A00W00101 & Above
(Breaker HB880) S/N A00X00101 & Above
(Breaker HB980) S/N A00Y00101 & Above
(Breaker HB1180) S/N A01R00101 & Above

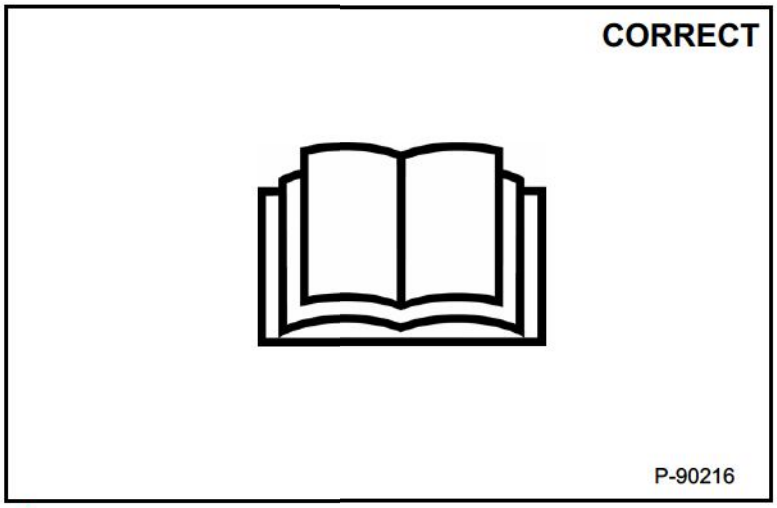


MAINTENANCE SAFETY

WARNING

Instructions are necessary before operating or servicing machine. Read and understand the Operation & Maintenance Manual, Operator's Handbook and signs (decals) on machine. Follow warnings and instructions in the manuals when making repairs, adjustments or servicing. Check for correct function after adjustments, repairs or service. Untrained operators and failure to follow instructions can cause injury or death. W-2003-0807

Safety Alert Symbol: This symbol with a warning statement, means: "Warning, be alert! Your safety is involved!" Carefully read the message that follows.



- Never service attachments / implements without instructions. See Operation & Maintenance Manual and Attachment / Implement Service Manual.
- Cleaning and maintenance are required daily.
- Never service or adjust attachment / implement with the engine running unless instructed to do so in manual.
- Always lower the attachment / implement to the ground before lubricating or servicing.
- Avoid contact with leaking hydraulic fluid or diesel fuel under pressure. It can penetrate skin or eyes.
- Stop, cool and clean engine of flammable materials before checking fluids.
- Keep body, loose objects and clothing away from moving parts, electrical contacts, hot parts and exhaust.
- Safety glasses are needed for eye protection from electrical arcs, battery acid, compressed springs, fluids under pressure and flying debris or when tools are used. Use eye protection approved for type of welding.

MSW30-0409

CONTENTS

SERIAL NUMBER LOCATION

Attachment Serial Number

Always use the serial number of the hydraulic breaker when requesting service information or when ordering parts. Early or later models (identification made by serial number) may use different parts, or it may be necessary to use a different procedure in doing a specific service operation.

Figure 1

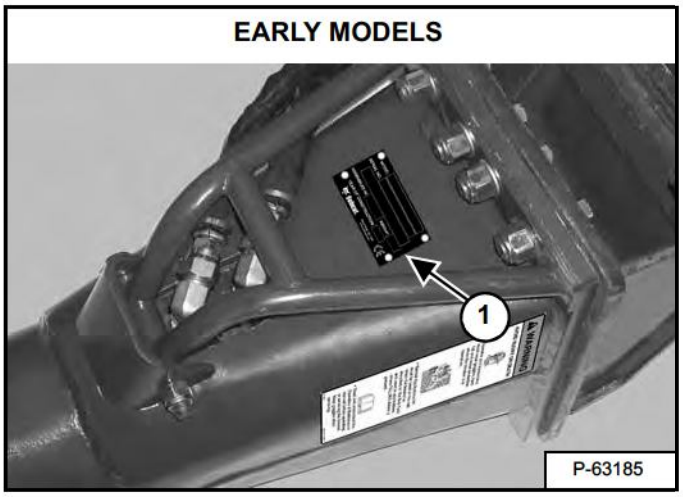


Figure 2

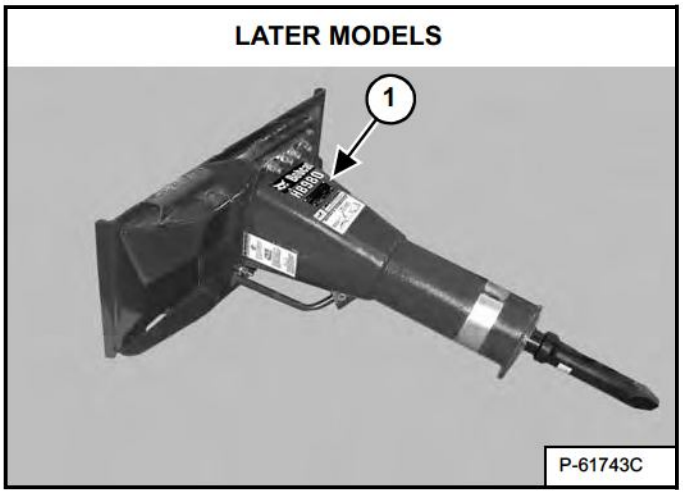
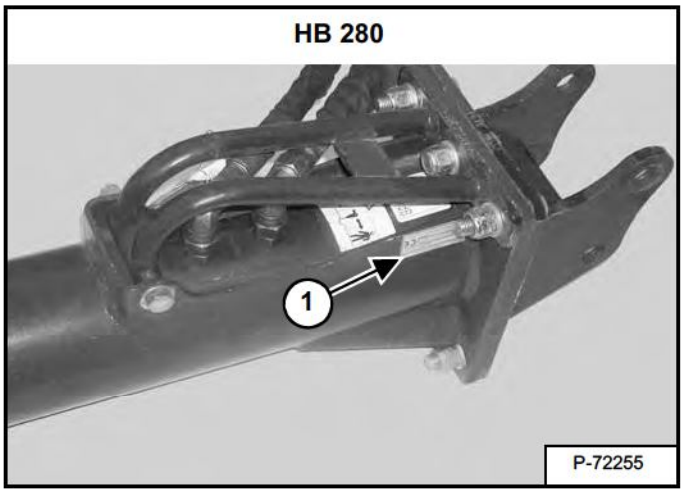
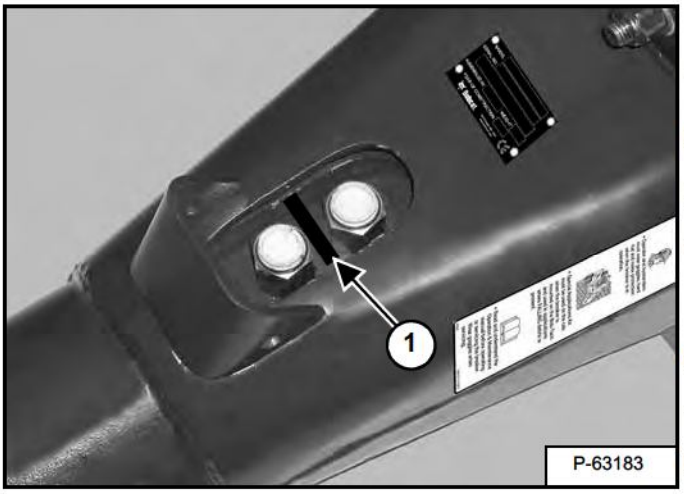


Figure 3



The breaker serial number plate (Item 1) **[Figure 1]**, **[Figure 2]** or **[Figure 3]** is located on the frame.

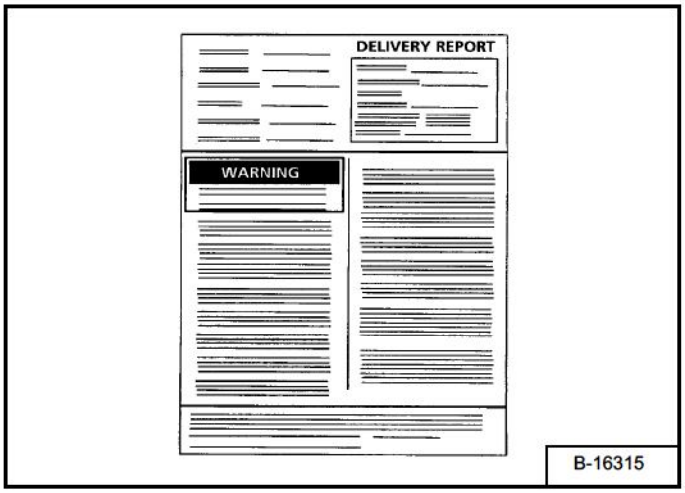
Figure 4



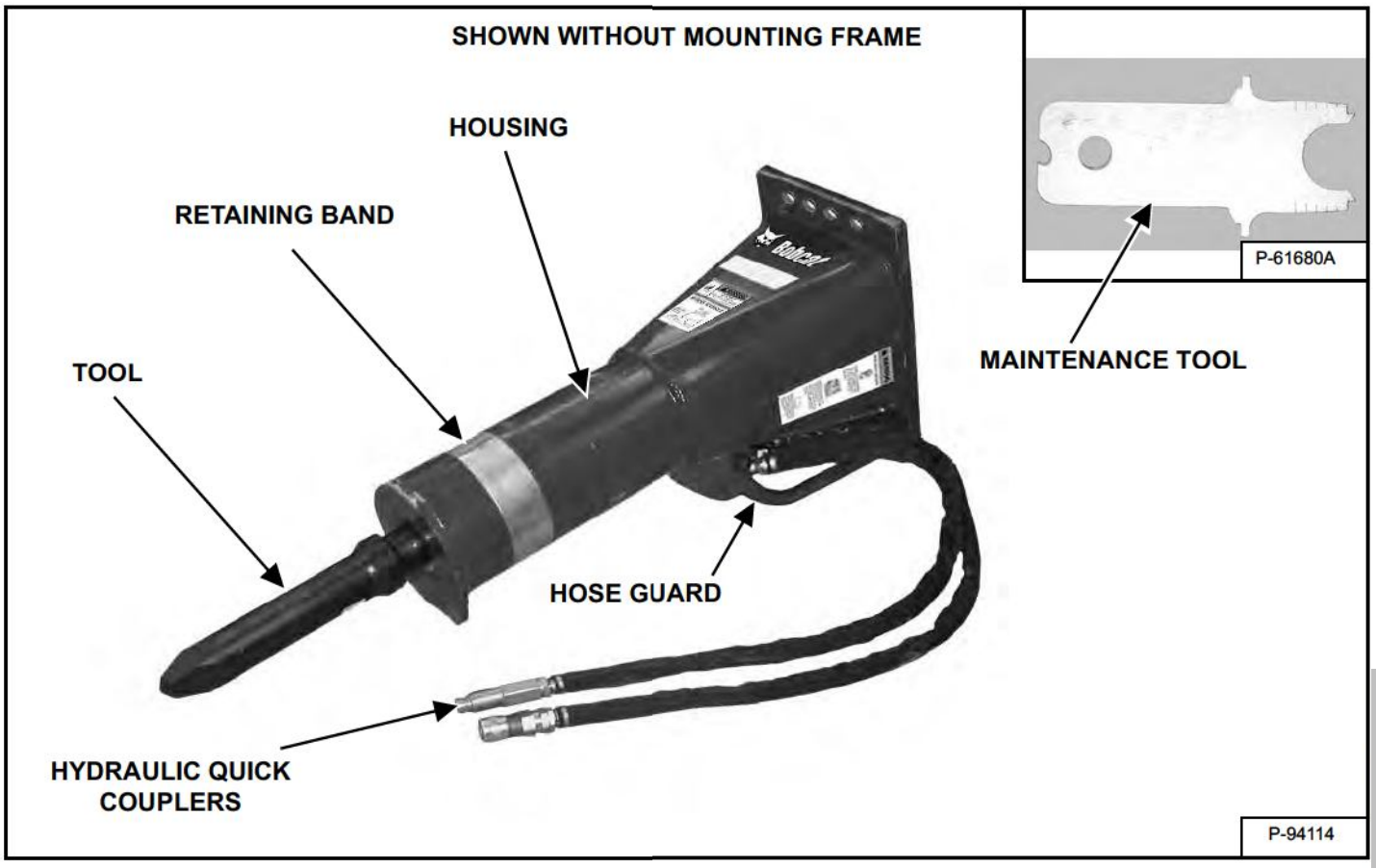
NOTE: The breaker serial number (Item 1) [Figure 4] is also etched into the face of the breaker power cell between the hydraulic ports.

DELIVERY REPORT

Figure 5



The delivery report must be completed by the dealer and signed by the owner or operator when the Bobcat hydraulic breaker is delivered. An explanation of the form must be given to the owner **[Figure 5]**.

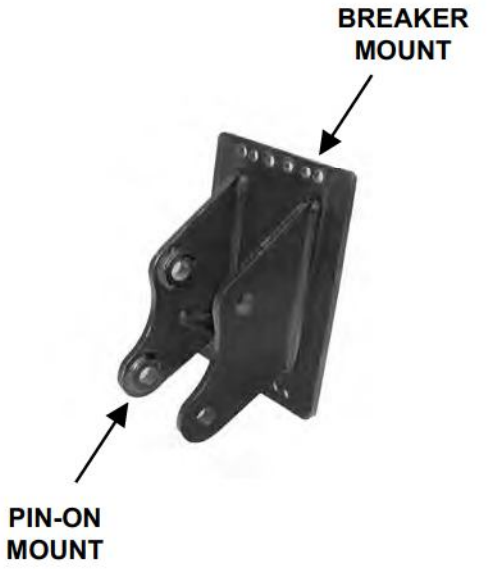

SHOWN WITHOUT MOUNTING FRAME
HOUSING
RETAINING BAND
TOOL
HOSE GUARD
HYDRAULIC QUICK COUPLERS
MAINTENANCE TOOL
P-61680A
P-94114

Mounting Frame Configurations

X-CHANGE MOUNTING FRAME

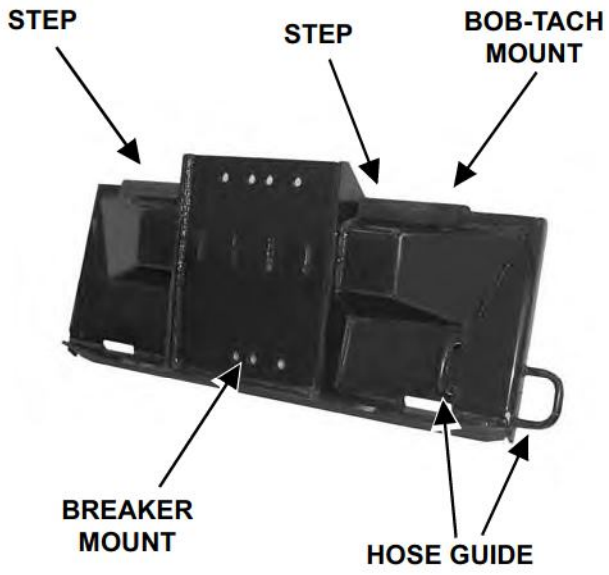
P-88735

PIN-ON MOUNTING FRAME



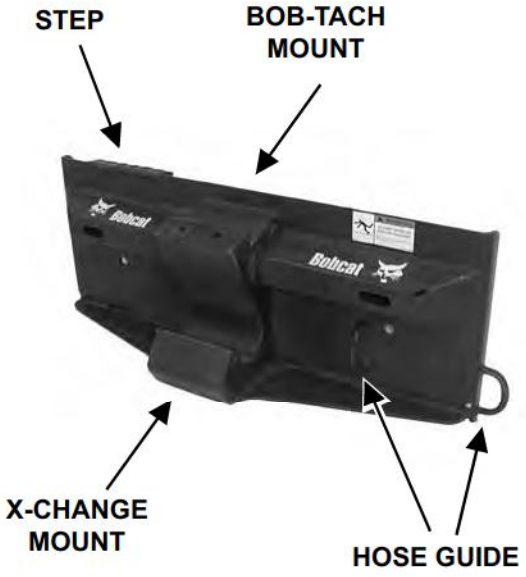
P-88736

BOB-TACH MOUNTING FRAME



P-88737

BOB-TACH / X-CHANGE MOUNTING FRAME



P-88738

SAFETY & MAINTENANCE

TROUBLESHOOTING

Chart

⚠ WARNING

Instructions are necessary before operating or servicing machine. Read and understand the Operation & Maintenance Manual, Operator's Handbook and signs (decals) on machine. Follow warnings and instructions in the manuals when making repairs, adjustments or servicing. Check for correct function after adjustments, repairs or service. Untrained operators and failure to follow instructions can cause injury or death.

W-2003-0903

If the breaker is not working correctly, check the hydraulic system of the machine thoroughly before making any repairs on the breaker. Breaker problems can be affected by a hydraulic system that is not operating to specifications or such problems as a plugged fuel filter or hydraulic filter in the machine. Connect a flow meter to the machine to check the hydraulic pump output, relief valve setting and tube lines to check flow and pressure. (See the machine's Service Manual for the correct procedure to connect the flow meter).

Use the following troubleshooting chart to locate and correct problems which most often occur with the attachment.

PROBLEM	CAUSE	CORRECTION
Breaker will not fire.	Machine fluid reservoir is low.	Add hydraulic fluid to the fluid reservoir.
	Hydraulic hoses connected to wrong ports.	Reverse hydraulic hoses.
	Damaged hydraulic couplers.	Replace hydraulic couplers.
	Machine main relief valve set too low.	Adjust main relief valve to correct setting.
	No hydraulic flow to the breaker.	Check the hydraulic flow to the breaker.
	Machine hydraulic pump not working.	Check flow of hydraulic pump. Repair or replace as needed.
	Oil in the air chamber.	Damaged internal seals, replace seals (See Breaker Service Manual)
	Regulator ring damaged or installed backwards.	Replace regulator ring. (See Breaker Service Manual)
	Tool bushing is worn.	Replace bushing.
Breaker stops after three blows.	Regulator ring damaged.	Replace regulator ring. (See Breaker Service Manual)
Breaker runs very slowly or blow per minute reducing.	Machine main relief valve set too low.	Adjust main relief valve to correct setting.
	Not enough hydraulic flow.	Test hydraulics for correct flow and pressure.
	Excessive heat build up	Check oil cooler for debris and air flow Check relief valve pressure.
	Damaged hydraulic couplers.	Replace hydraulic couplers.
	Internal leakage	Check seals and O-rings in the breaker Check piston, sleeve and seal carrier for wear. (See the Breaker Service Manual)
	No breaking force and hoses jumping.	Check diaphragm for damage. (See the Breaker Service Manual)

Troubleshooting chart continued on next page.

Chart (Cont'd)

PROBLEM	CAUSE	CORRECTION
Breaker fires erratically.	Machine main relief valve set too low.	Adjust main relief valve to correct setting.
	Excessive back pressure.	Check for plugged or bent return lines.
	Low fluid level.	Add fluid to the reservoir as needed.
	Not enough hydraulic flow.	Test hydraulics for correct flow and pressure.
	Damaged hydraulic couplers.	Replace hydraulic couplers.
	Tool binding	Add grease to the tool shank fitting.
Breaker runs for twenty minutes then stops. Breaker will restart after thirty minutes of idle time.	Oil overheating	Clean machine radiator.
		Adjust main relief valve to correct setting.
		Add hydraulic fluid to the fluid reservoir
	Breaker distributor damage from overheating	Replace distributor. (See Breaker Service Manual)
Breaker lacks striking force.	Regulator ring damaged.	Replace regulator ring. (See Breaker Service Manual)
	Not enough hydraulic flow.	Test hydraulics for correct flow and pressure.
	Accumulator nitrogen pressure low.	Check nitrogen pressure. If oil in accumulator chamber, replace diaphragm. If pressure low, recharge nitrogen. (See Breaker Service Manual)
		Make sure nitrogen fill plug is installed and torque to specifications.
	Tool is broken inside bushing.	Replace tool.
Excessive heat build up.	Blank firing.	Refer to the hydraulic controls section for correct operating procedure.
	Machine fluid reservoir is low.	Add hydraulic fluid to the fluid reservoir.
Hydraulic hoses between breaker and machine are pulsing more than normal.	Nitrogen charge pressure is low.	Check nitrogen pressure. If oil in accumulator chamber, replace diaphragm. If pressure low, recharge nitrogen. (See Breaker Service Manual)
	Accumulator nitrogen pressure is low.	
Hydraulic oil on breaker tool.	Damaged piston seals.	Replace seals. (See Breaker Service Manual)
Tool breakage	Firing without sufficient down force on the tool.	Apply additional down force with the machine.
	Using the tool as a pry bar.	Only use perpendicular down force on the tool when breaking, do not pry with tool.
	Grinding on the side face of the tool.	Grinding on the side face of the tool may cause fatigue points or stress areas on the tool.
	Tool corrosion	If the breaker or tool is unused for extended periods of time, retract tool and grease the outside of the tool.
	Cold tool	If used in cold weather, keep tool in a warm area prior to usage.

See the following troubleshooting chart also.

Chart (Cont'd)

CHARGING INFORMATION	AFFECTED ON BREAKER
Accumulator charge is low.	Reduced life of the diaphragm - possibly forcing the diaphragm into the schraeder valve inflation hole.
Accumulator charge is too high.	Reduced diaphragm life - possibly forcing the diaphragm into the grid holes.

Figure 10-10-1

Pressure Measured		Possible Cause	Solution
kPA	bar (psi)		
0 - 25,3	0 - 25 (0 - 360)	Diaphragm damaged or deflated.	Replace diaphragm. Charge Nitrogen Chamber.
25,3 - 40,8	25 - 40 (360 - 580)	OK	
Above 40,8	Above 40 (Above 580)	Diaphragm damaged.	Replace diaphragm.

Charging Information

Correct nitrogen charge pressure is an important factor in the service life of the breaker diaphragm **[Figure 10-10-1]**.

When the charge is too low, the breaker will cycle faster than intended reducing the life of the diaphragm. Low charge also causes the breaker to not hit as hard as designed, reducing performance. When the charge is too high, the breaker will cycle slower than intended and build excessive heat affecting the performance and service life of the breaker and carrier. A service interval of every 12 months has been established for checking nitrogen charge.

NOTE: If oil is detected in the nitrogen, the diaphragm is damaged and must be replaced. (See your Bobcat dealer for additional information.)

Our support email:

ebooklibonline@outlook.com