

Hydraulic Breaker

B700
B850
B950
B1400



Bobcat®

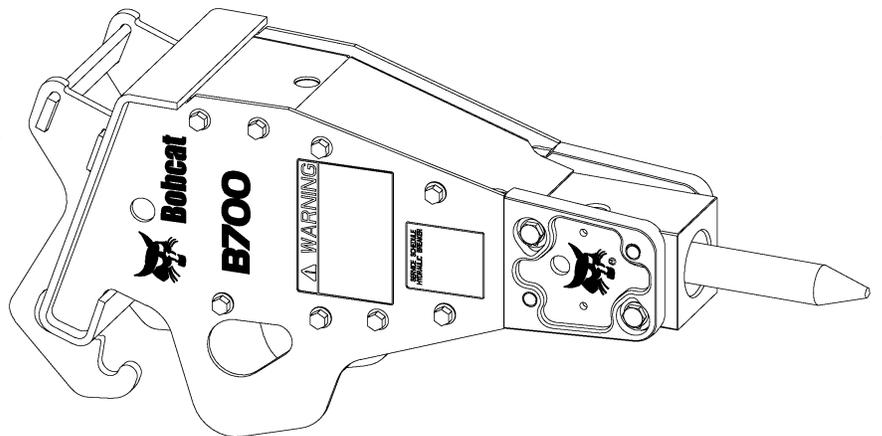
Service Manual

S/N 733200101 & Above

S/N 794000101 & Above

S/N 797000101 & Above

S/N 797100101 & Above



Product: Bobcat B700/B850/B950/B1400 Hydraulic Breaker Service Repair Workshop Manual

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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-2003-0903



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 without instructions. See Operation & Maintenance Manual and Attachment Service Manual.
-  Cleaning and maintenance are required daily.
-  Never service or adjust attachment with the engine running unless instructed to do so in manual.
-  Always lower the attachment 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.



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ALPHABETICAL INDEX

ACCUMULATOR DISASSEMBLY AND ASSEMBLY	10-01, 20-01, 30-01
BREAKER BIT ASSEMBLY	10-01, 20-01, 30-01
BREAKER FRAME	10-01, 20-01, 30-01
BREAKER LUBRICATION	10-01, 20-01, 30-01
BUSHING REMOVAL AND INSTALLATION	10-01, 20-01, 30-01
ENERGY/FREQUENCY PISTON (B700)	10-01
HOSE INSTALLATION	10-01, 20-01, 30-01
HYDRAULIC FLUID FLOW EXPLANATION (B700)	10-01
NITROGEN CHAMBER	10-01, 20-01, 30-01
PARTS IDENTIFICATION	iv, vii, x
SERIAL NUMBER LOCATION.....	iii, vi, ix
SPECIFICATIONS AND SCHEMATICS.....	10-01, 20-01, 30-01



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CONTENTS

B700 HYDRAULIC BREAKER SERIAL NUMBER LOCATION (S/N 733200101 & ABOVE) III

B700 PARTS IDENTIFICATION (S/N 733200101 & ABOVE)..... IV

B850/B950 HYDRAULIC BREAKER SERIAL NUMBER LOCATION (S/N 794000101 & ABOVE), (S/N 797000101 & ABOVE) VI

B850/B950 PARTS IDENTIFICATION (S/N 794000101 & ABOVE), (S/N 797000101 & ABOVE)VII

B1400 HYDRAULIC BREAKER SERIAL NUMBER LOCATION (S/N 797100101 & ABOVE) IX

B1400 PARTS IDENTIFICATION (S/N 797100101 & ABOVE).....X

B700 HYDRAULIC BREAKER 10-01

B850 HYDRAULIC BREAKER (S/N 794000101 & ABOVE) AND B950 HYDRAULIC BREAKER (S/N 797000101 & ABOVE) 20-01

B1400 HYDRAULIC BREAKER (S/N 797100101 & ABOVE).... 30-01

**B700 HYDRAULIC
BREAKER**

**B850/B950 HYDRAULIC
BREAKER**

**B1400 HYDRAULIC
BREAKER**

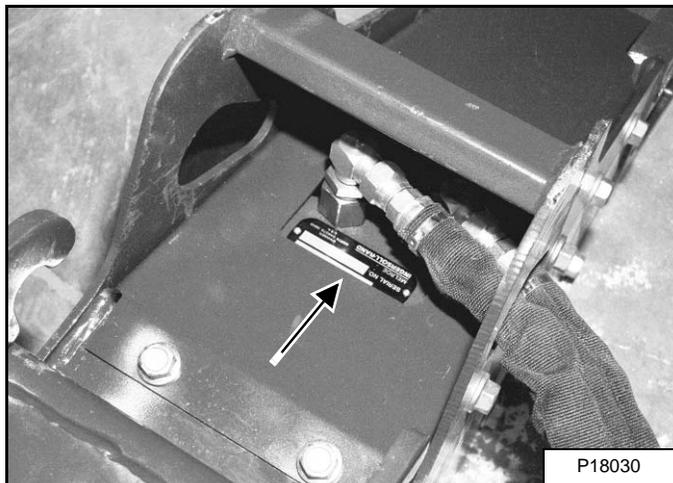
**CALIFORNIA
PROPOSITION 65 WARNING**
Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects and other reproductive harm.



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**B700 HYDRAULIC BREAKER SERIAL NUMBER
LOCATION (S/N 733200101 & ABOVE)**

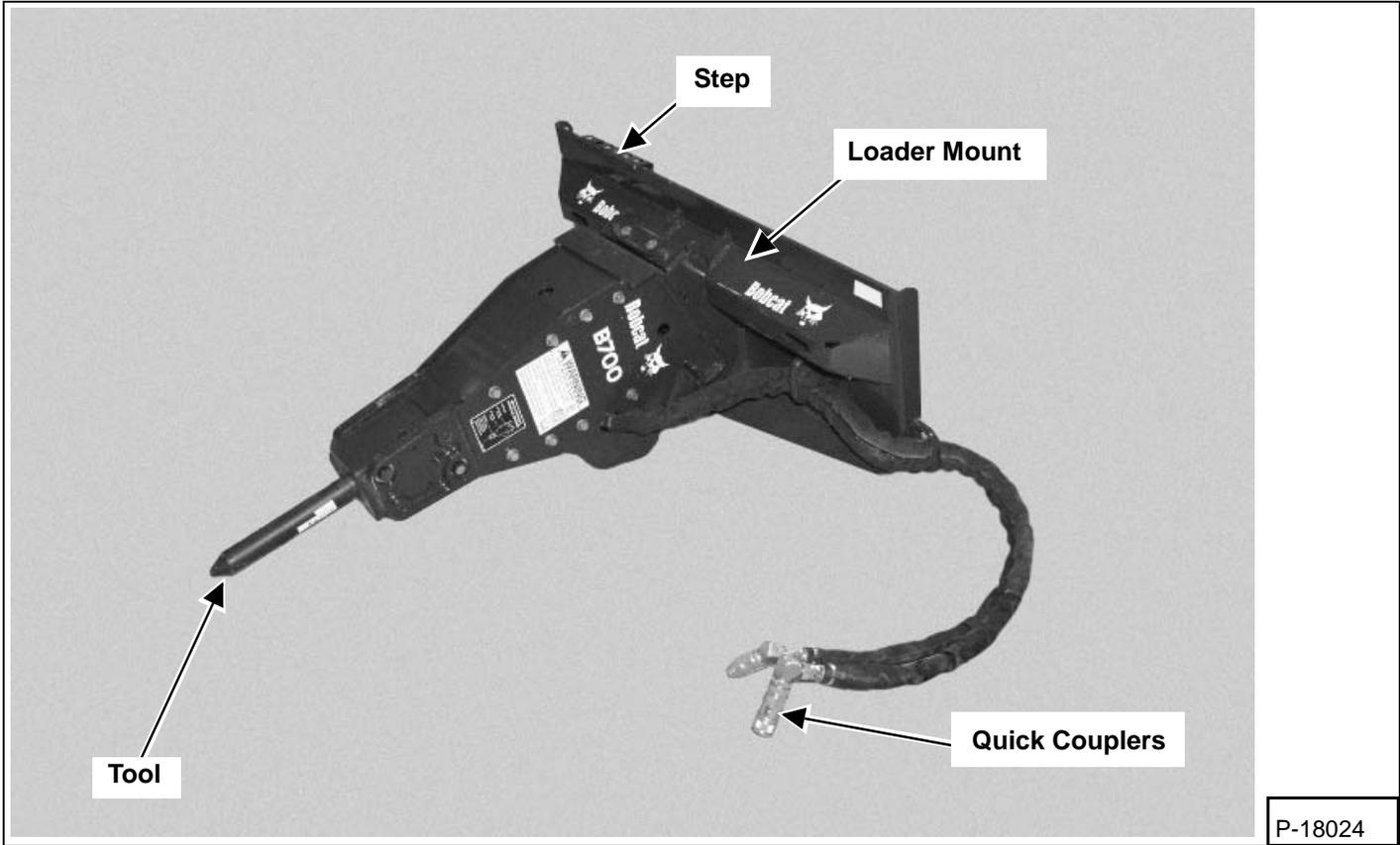
Figure 1



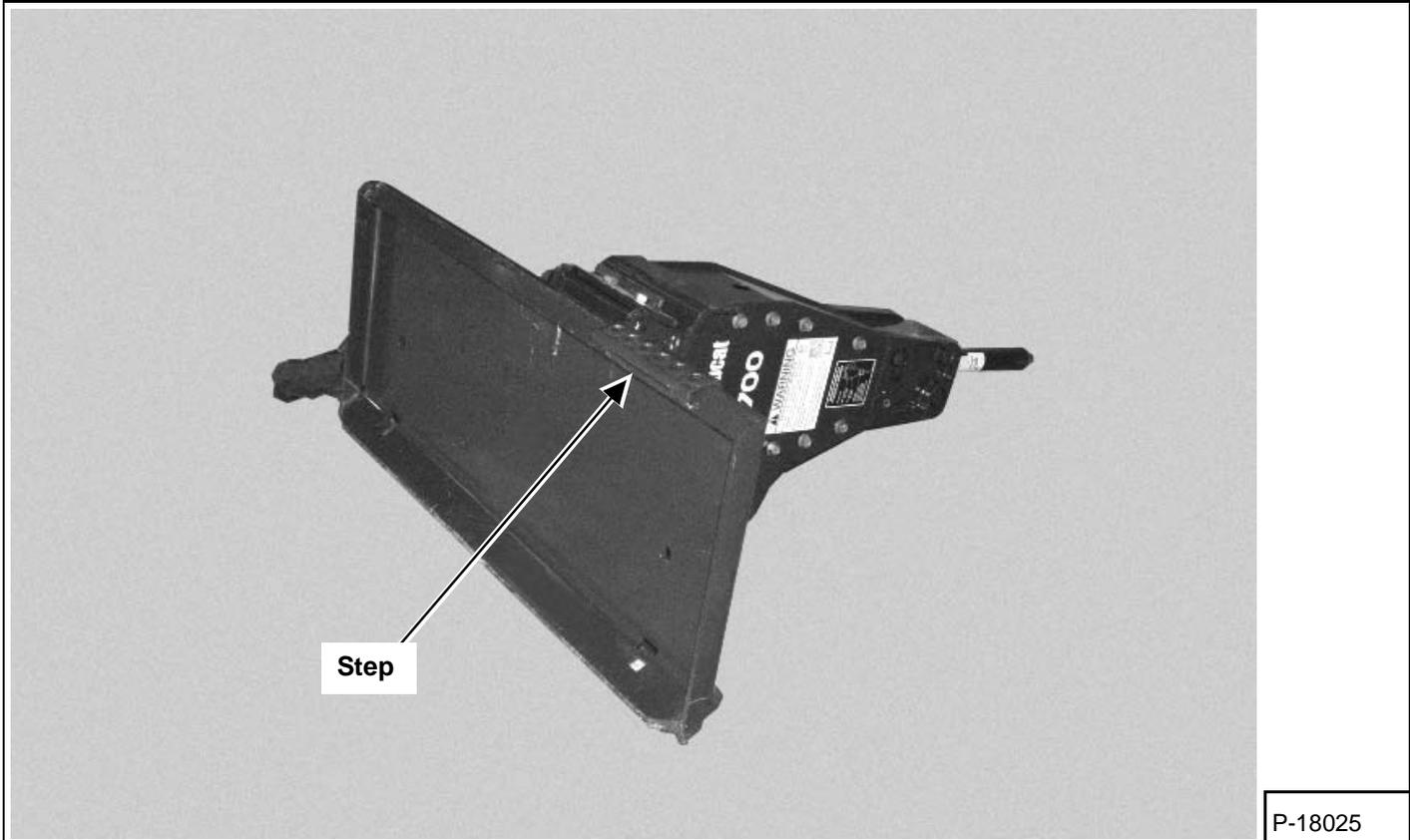
Always use the serial number of the Hydraulic Breaker when requesting service information or when ordering parts. Early or later models (identification made by serial number) may use different parts, or it may be necessary to use a different procedure in doing a specific service operation **[Figure 1]**.

B700 PARTS IDENTIFICATION (S/N 733200101 & ABOVE)

Loader Mount

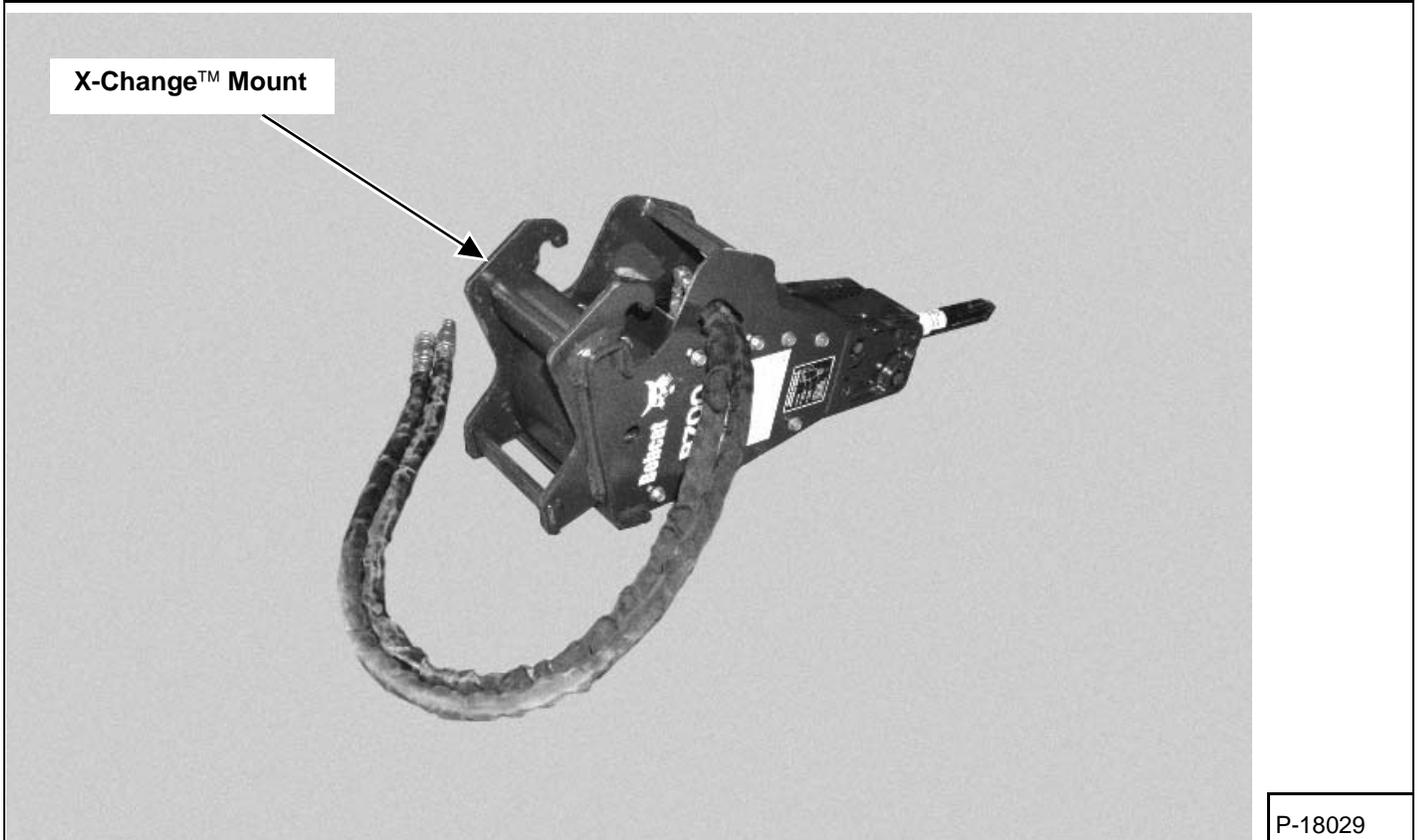
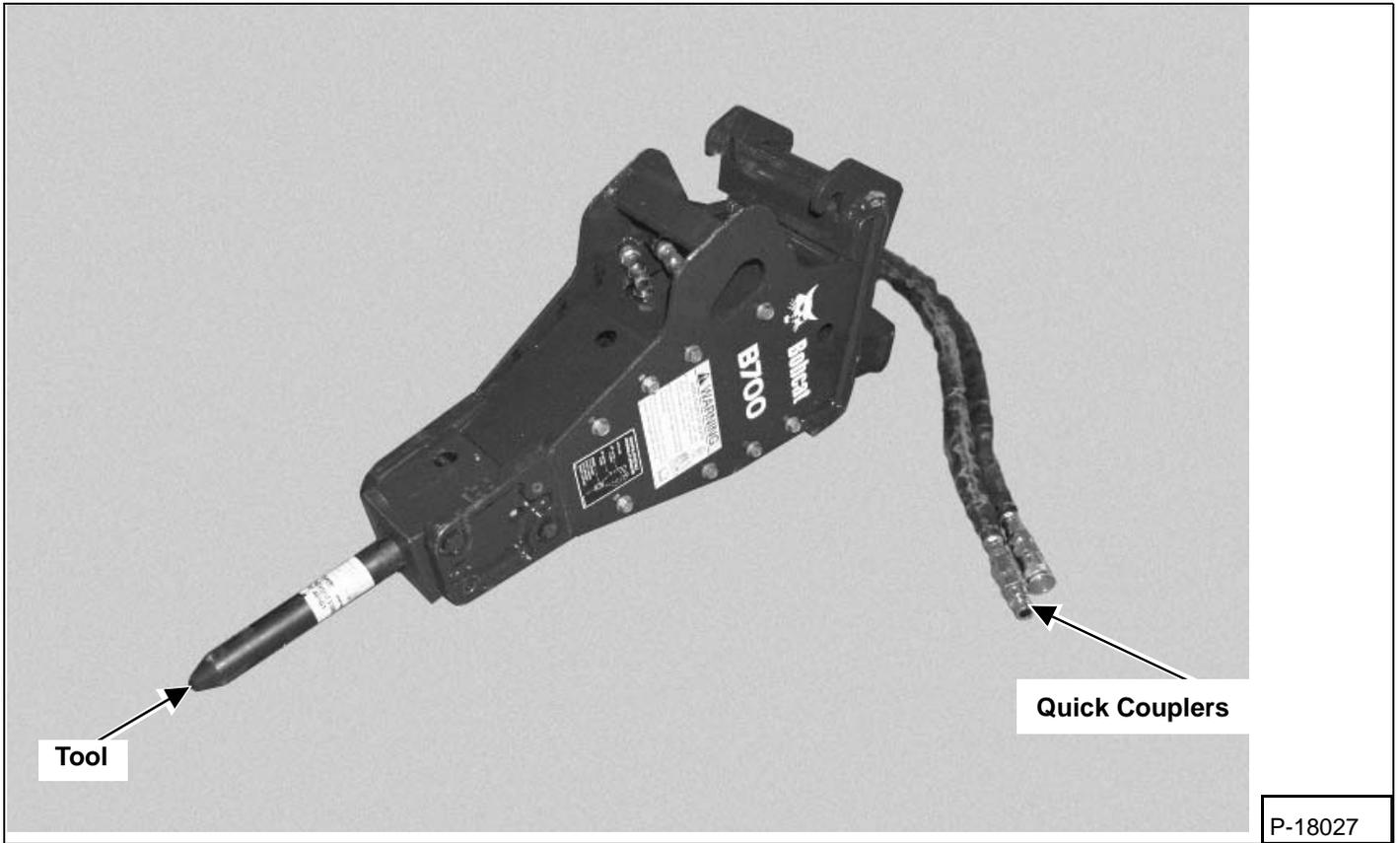


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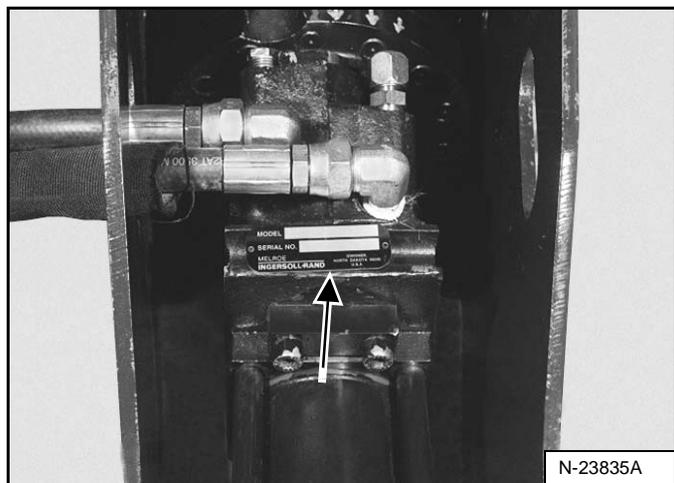
P-18025

Excavator Mount



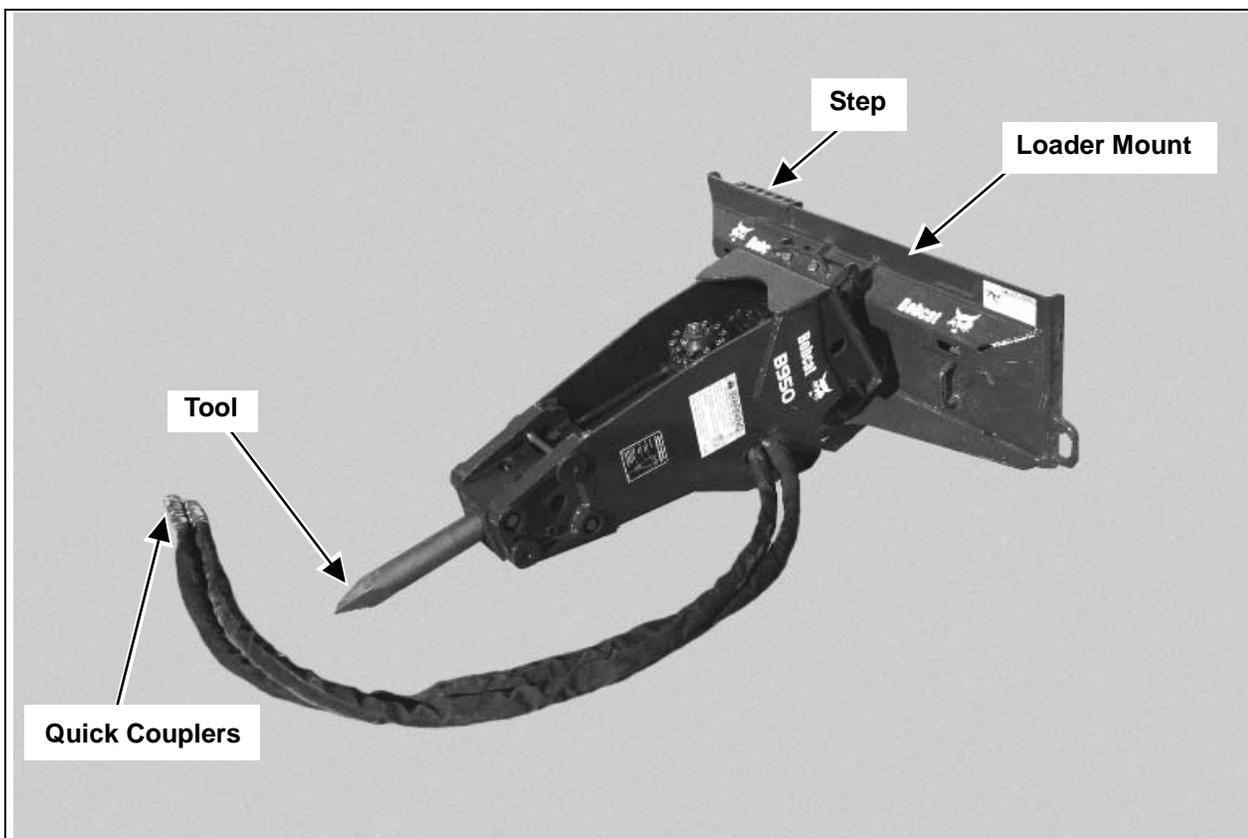
**B850/B950 HYDRAULIC BREAKER SERIAL NUMBER
LOCATION (S/N 794000101 & ABOVE), (S/N
797000101 & ABOVE)**

Figure 2

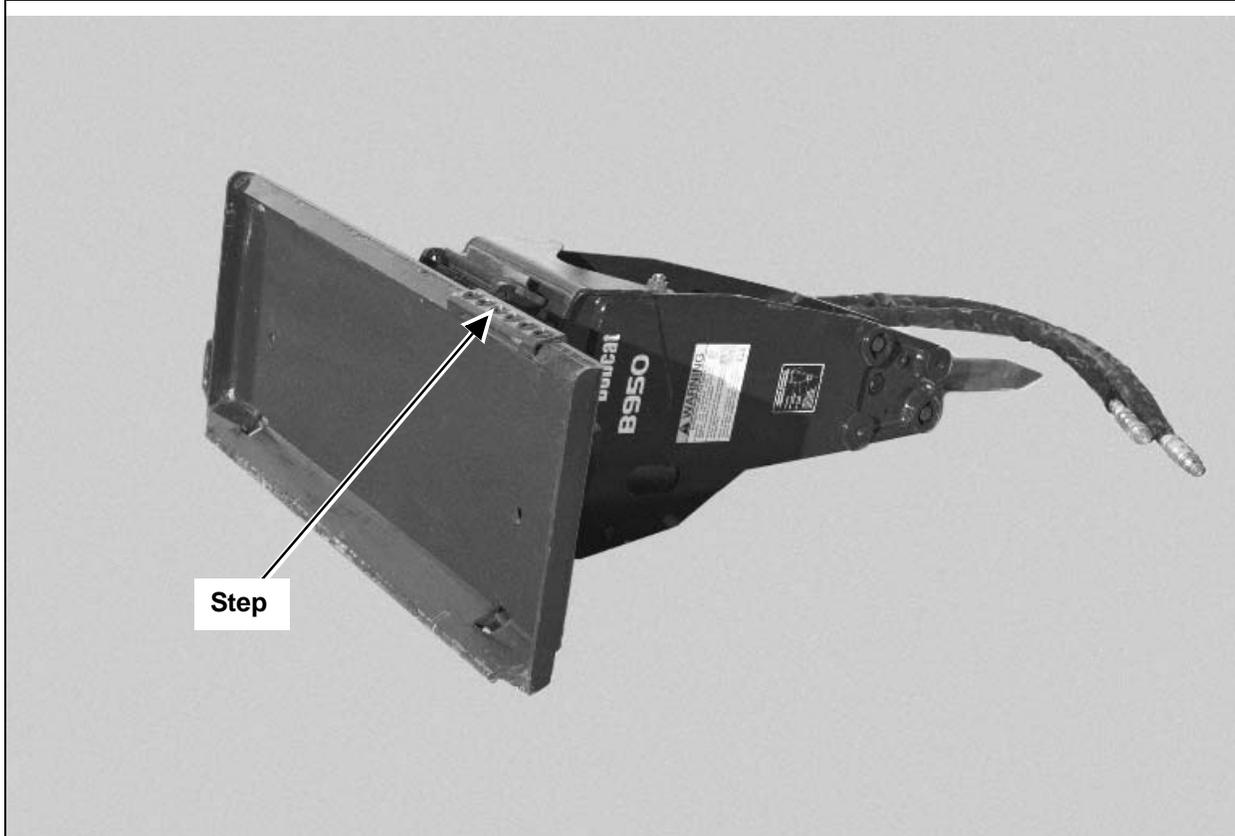


Always use the serial number of the Hydraulic Breaker when requesting service information or when ordering parts. Early or later models (identification made by serial number) may use different parts, or it may be necessary to use a different procedure in doing a specific service operation **[Figure 2]**.

Loader Mount



P-18827

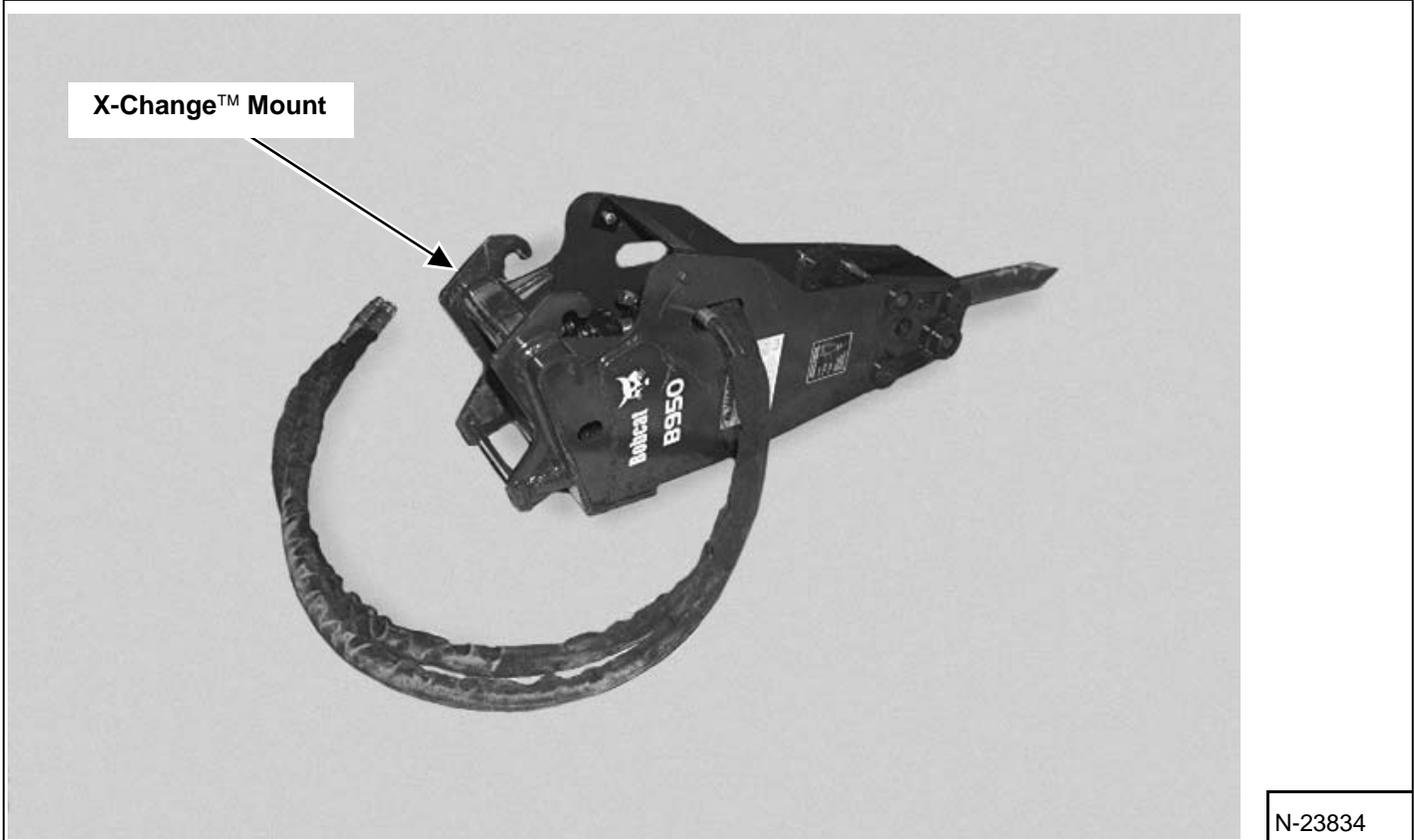


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Excavator Mount



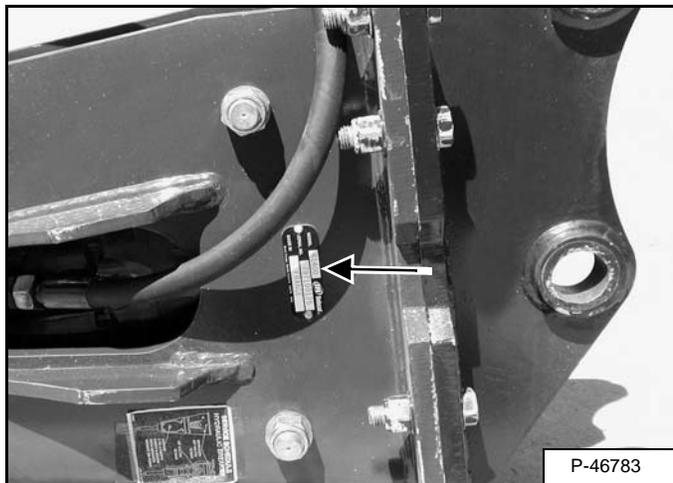
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N-23834

**B1400 HYDRAULIC BREAKER SERIAL NUMBER
LOCATION (S/N 797100101 & ABOVE)**

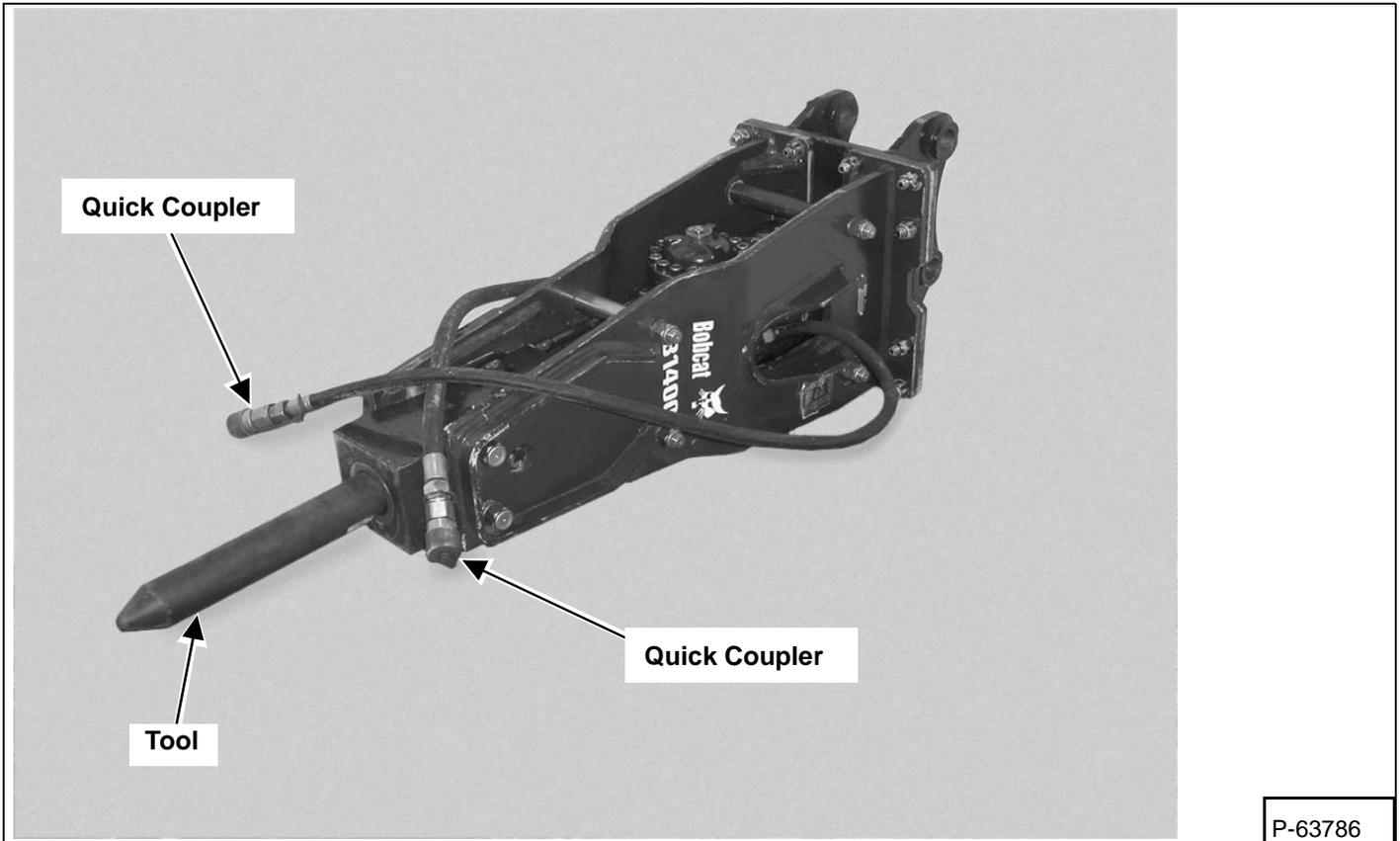
Figure 3



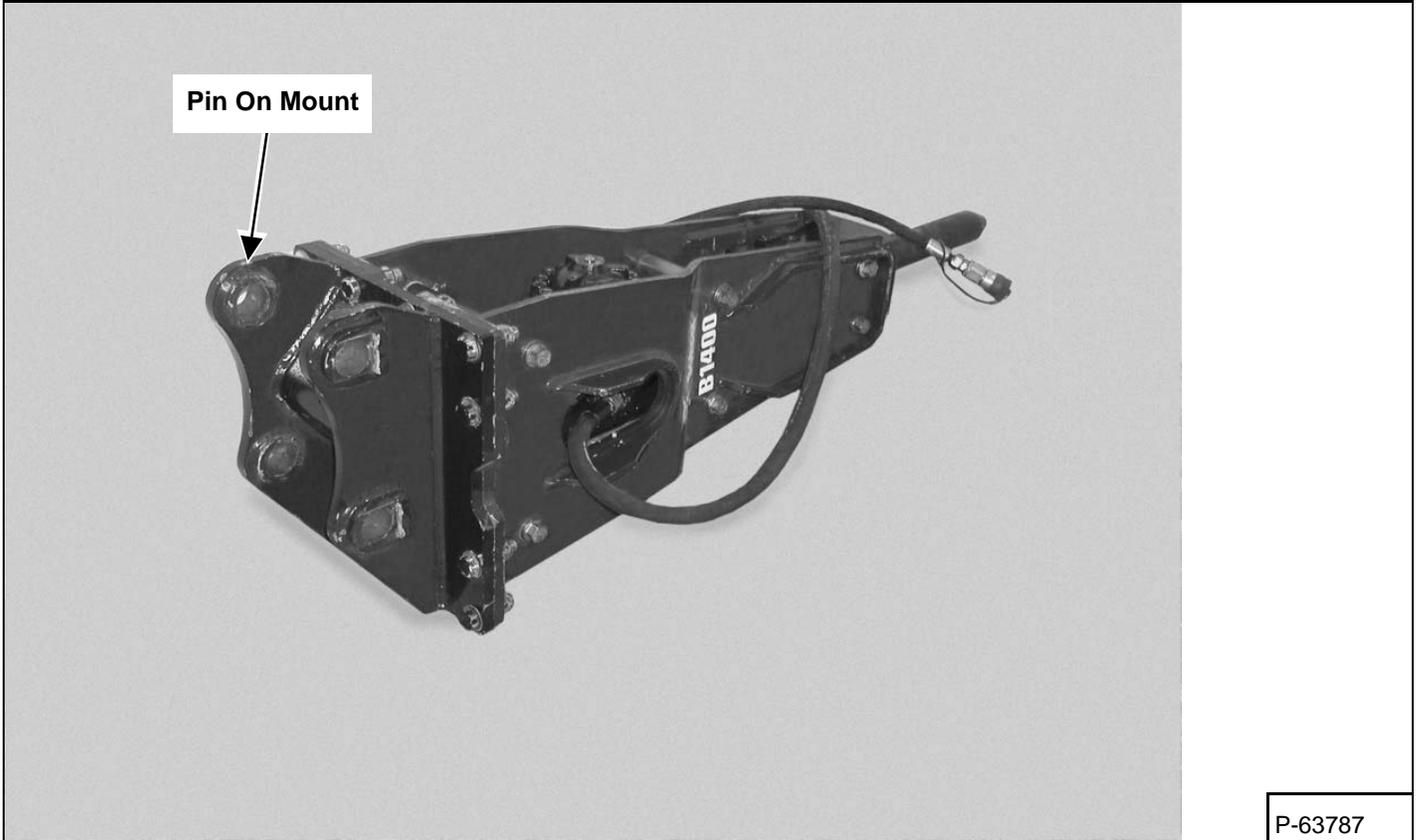
Always use the serial number of the Hydraulic Breaker when requesting service information or when ordering parts. Early or later models (identification made by serial number) may use different parts, or it may be necessary to use a different procedure in doing a specific service operation **[Figure 3]**.

B1400 PARTS IDENTIFICATION (S/N 797100101 & ABOVE)

Excavator Mount



P-63786



P-63787

B700 HYDRAULIC BREAKER

B700 HYDRAULIC BREAKER

ACCUMULATOR DISASSEMBLY AND ASSEMBLY	10-20-30
Assembly Of The HP Accumulator	10-20-33
Assembly Of The MP Accumulator	10-20-37
Disassembly Of The HP Accumulator	10-20-31
Disassembly Of The MP Accumulator	10-20-35
Parts Identification	10-20-30
BREAKER BIT	10-10-15
Installation	10-10-16
Removal	10-10-15
BREAKER DISASSEMBLY AND ASSEMBLY	10-20-6
Assembly	10-20-18
Disassembly	10-20-7
Inspection	10-20-15
Parts Identification	10-20-6
BREAKER FRAME	10-20-1
Removal And Installation	10-20-1
BREAKER LUBRICATION	10-10-18
BUSHING REMOVAL AND INSTALLATION	10-20-26
Installation	10-20-27
Removal	10-20-26
ENERGY/FREQUENCY PISTON	10-10-12
Description	10-10-12
Changing The Energy/Frequency Piston Setting	10-10-12
HOSE INSTALLATION	10-10-1
HYDRAULIC FLUID FLOW EXPLANATION	10-30-1
INSPECTION	10-10-19
Excavator Mount Inspection	10-10-21
Hand Lever Bob-Tach Inspection	10-10-19
Loader Mount Inspection	10-10-21
Weekly Inspection	10-10-21

Continued On Next Page

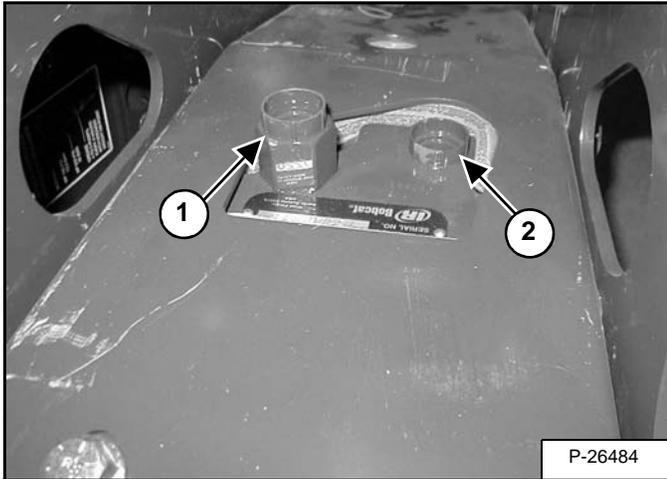
B700 HYDRAULIC BREAKER (CONT'D)

NITROGEN CHAMBER	10-10-4
Charging The HP Nitrogen Chamber.....	10-10-6
Charging The MP Nitrogen Chamber	10-10-10
Checking The HP Nitrogen Chamber Charge Pressure ..	10-10-4
Checking The MP Nitrogen Chamber Charge Pressure ..	10-10-8
Discharging The HP Nitrogen Chamber	10-10-5
Discharging The MP Nitrogen Chamber	10-10-9
HYDRAULIC FLUID FLOW EXPLANATION.....	10-30-1
TROUBLESHOOTING	10-10-2

HOSE INSTALLATION

The breaker is supplied without the hoses and couplers installed on the breaker.

Figure 10-10-1

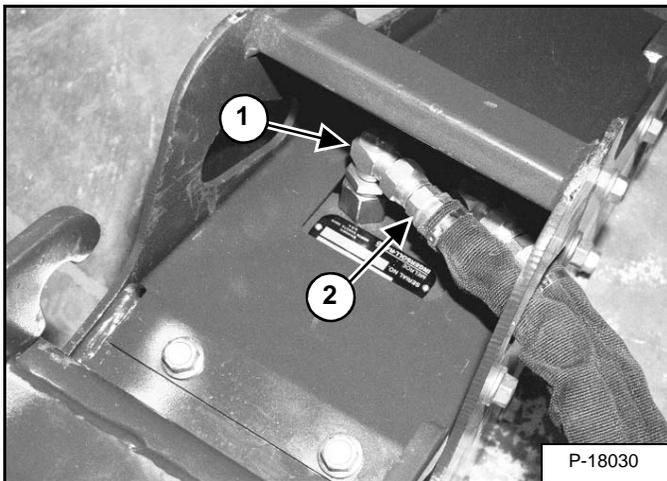


The port marked *HP* (Item 1) [Figure 10-10-1] will be connected to the breaker hose with the male coupler.

The port marked *HLP* (Item 2) [Figure 10-10-1] will be connected to the breaker hose with the female coupler.

Install the hoses and couplers as follows:

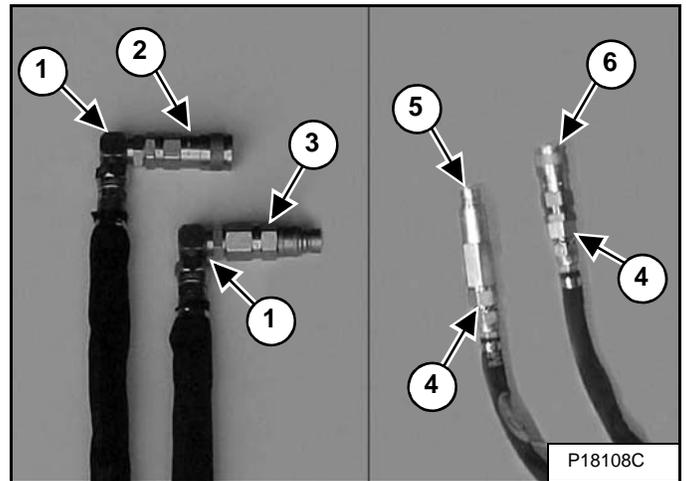
Figure 10-10-2



Install the 2 90° elbows (Item 1) [Figure 10-10-2] into the ports (Item 1 and 2) [Figure 10-10-1].

Install the 2 hoses (Item 2) on the 90° elbows (Item 1) [Figure 10-10-2].

Figure 10-10-3



For breakers installed on **MT50, MT52, MT55, 463, 751, 753, S130, T140**: install the 2 90° elbows (Item 1) [Figure 10-10-3] on the hoses.

Install the male coupler (Item 2) [Figure 10-10-3] on the hose that connects to the *HP* port (Item 1) [Figure 10-10-1].

Install the female coupler (Item 3) [Figure 10-10-3] on the hose that connects to the *LP* port (Item 1) [Figure 10-10-1].

For breakers installed on **453, 320, 322, 323, 325 and 328**: install the 2 adapters (Item 4) [Figure 10-10-3] on the hoses.

Install the male coupler (Item 5) [Figure 10-10-3] on the hose that connects to the *HP* port (Item 1) [Figure 10-10-1].

Install the female coupler (Item 6) [Figure 10-10-3] on the hose that connects to the *LP* port (Item 1) [Figure 10-10-1].



WARNING

Instructions are necessary before operating or servicing machine. Read and understand the Operation & Maintenance Manual, 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-2003-0199

If the Hydraulic Breaker is not working correctly, check the hydraulic system of the Bobcat loader or excavator thoroughly before making any repairs on the breaker. Hydraulic 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 loader or excavator. Connect a flow meter to the loader or excavator to check the hydraulic pump output, relief valve setting and tubelines to check flow and pressure. (See the loader Service Manual for the correct procedure to connect the flow meter.)

PROBLEM	CAUSE	CORRECTION
Breaker will not fire.	Loader or excavator main relief valve set too low.	Adjust main relief valve to correct setting.
	Loader or excavator fluid reservoir is low.	Add hydraulic fluid to the fluid reservoir on the loader or excavator.
	No hydraulic flow to the breaker.	Check the hydraulic flow to the breaker.
	Loader or excavator hydraulic pump not working.	Check flow of loader hydraulic pump. Repair or replace as needed.
	Nitrogen chamber not at correct pressure.	Charge to required pressure.
	Damaged quick couplers.	Replace quick couplers.
	Nitrogen chamber diaphragm damaged.	Replace diaphragm and recharge nitrogen chamber.
Breaker runs very slowly or blow per minute reducing.	Loader or excavator main relief valve set too low.	Adjust main relief valve to correct setting.
	Not enough hydraulic flow.	Test loader or excavator hydraulics for correct flow and pressure.
	Excessive heat build up.	Check oil cooler for debris and air flow. Check loader or excavator relief valve pressure.
	Damaged quick couplers.	Replace quick couplers.
	Nitrogen chamber over-pressurized.	Remove gas and refill to correct pressure.
	Internal leakage.	Check seals and O-rings in the breaker. Check piston, sleeve and seal carrier for wear. (Refer to the Breaker Service Manual.)
	Excessive back pressure.	Check for plugged or bent return lines.
Breaker fires erratically.	Loader or excavator 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.
	Damaged quick couplers.	Replace quick couplers.
	Tool binding.	Add grease to the tool shank fitting.

TROUBLESHOOTING (CONT'D)

PROBLEM	CAUSE	CORRECTION
Excessive heat build up.	Blank firing.	Refer to the hydraulic controls section for correct operating procedure.
	Loader or excavator fluid reservoir is low.	Add hydraulic fluid to the fluid reservoir on the loader or excavator.
Poor performance (453)	Energy/Frequency piston set in Energy position.	Move piston to Frequency position.

NITROGEN CHAMBER

Checking The HP Nitrogen Chamber Charge Pressure

! WARNING

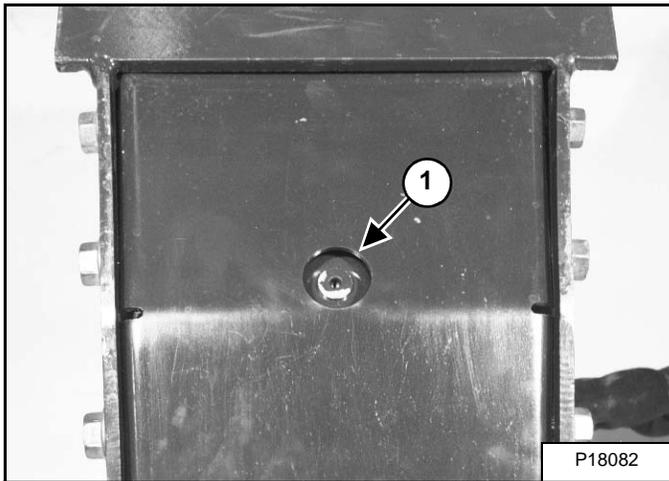
Wear safety glasses to prevent eye injury when any of the following conditions exist:

- When fluids are under pressure.
- Flying debris or loose material is present.
- Engine is running.
- Tools are being used.

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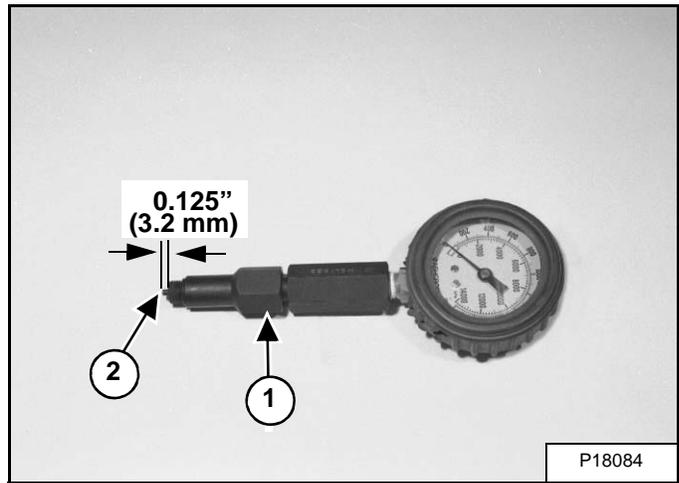
Use the nitrogen accumulator charge pressure gauge MEL1523B to check pressure.

Figure 10-10-4



Remove the plug (Item 1) [Figure 10-10-4].

Figure 10-10-5



Install the correct adapter (Item 1) on the gauge. With the adapter tightened on the gauge, measure the pin (Item 2) protrusion.

Manually extend or retract the pin until the pin measures 0.125 in. (3,2 mm) from pin tip to adapter face.

Figure 10-10-6



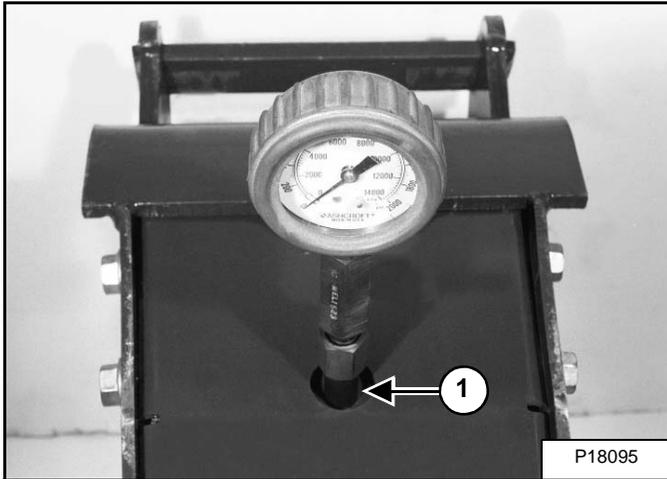
Loosen the adapter until the pin is flush with the end of the adapter as shown [Figure 10-10-6].

Install the gauge/adapter on the breaker.

NITROGEN CHAMBER (CONT'D)

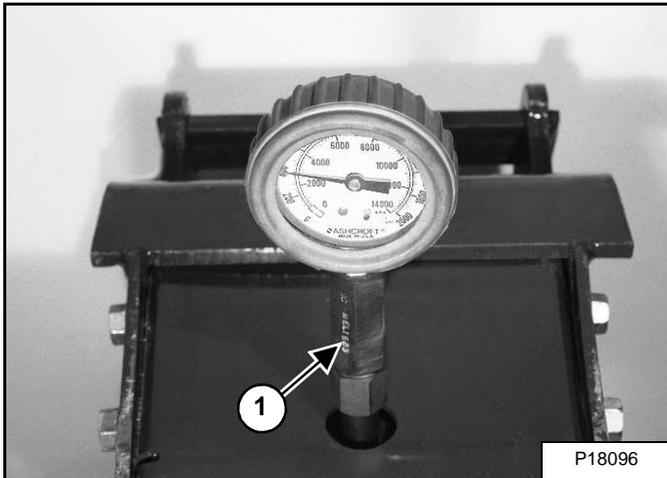
Checking The HP Nitrogen Chamber Charge Pressure (Cont'd)

Figure 10-10-7



Tighten the adapter (Item 1) [Figure 10-10-7] on the breaker.

Figure 10-10-8

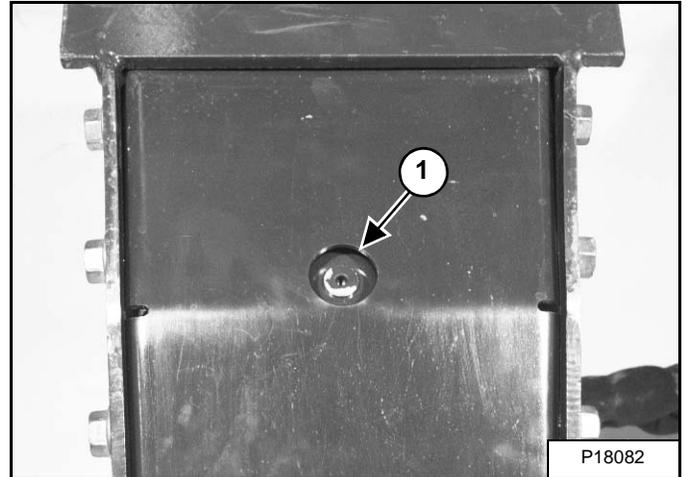


Slowly turn the gauge valve body (Item 1) [Figure 10-10-8] clockwise until the gauge shows a reading. If the pressure is low, recharge the breaker using charging kit number 6568037.

NOTE: The correct charge pressure is 500 PSI (34.48 bar).

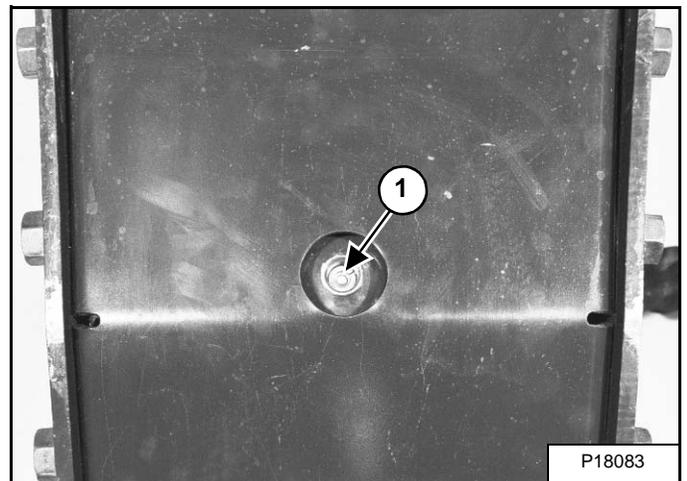
Discharging The HP Nitrogen Chamber

Figure 10-10-9



Remove the plug (Item 1) [Figure 10-10-9] from the charge valve.

Figure 10-10-10



Using a small shaft, push the valve (Item 1) [Figure 10-10-10] inward to release the gas pressure.

Install the plug in the charge valve.

NITROGEN CHAMBER (CONT'D)

Charging The HP Nitrogen Chamber

! WARNING

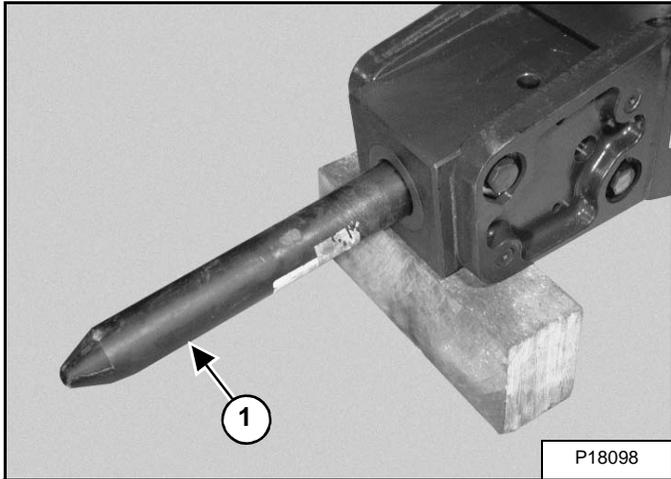
Wear safety glasses to prevent eye injury when any of the following conditions exist:

- When fluids are under pressure.
- Flying debris or loose material is present.
- Engine is running.
- Tools are being used.

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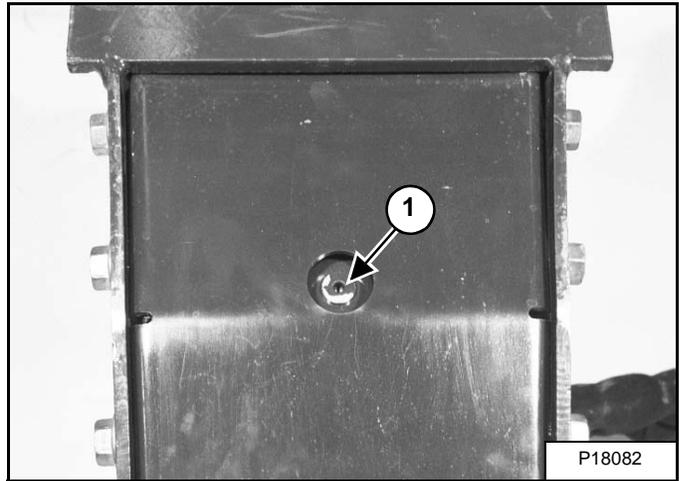
NOTE: When in doubt of nitrogen charge pressure or when recharging a *hot* breaker, release the nitrogen pressure completely and recharge the nitrogen chamber.

Figure 10-10-11



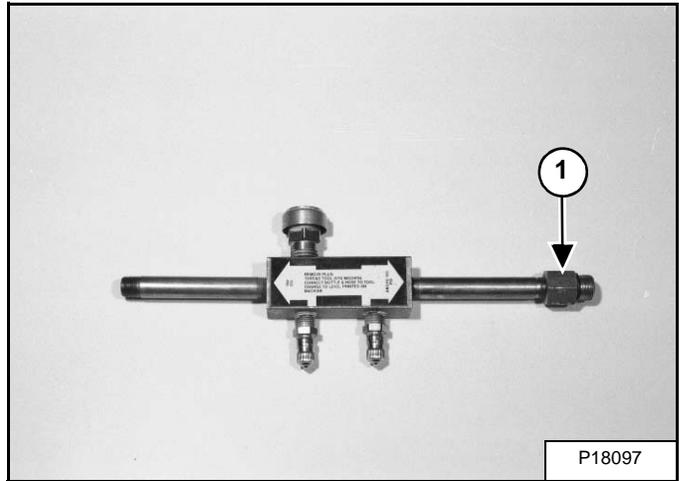
Block up the breaker so the tool bit (Item 1) [Figure 10-10-11] is not under pressure and is not in contact with the nitrogen chamber.

Figure 10-10-12



Remove the plug (Item 1) [Figure 10-10-12].

Figure 10-10-13

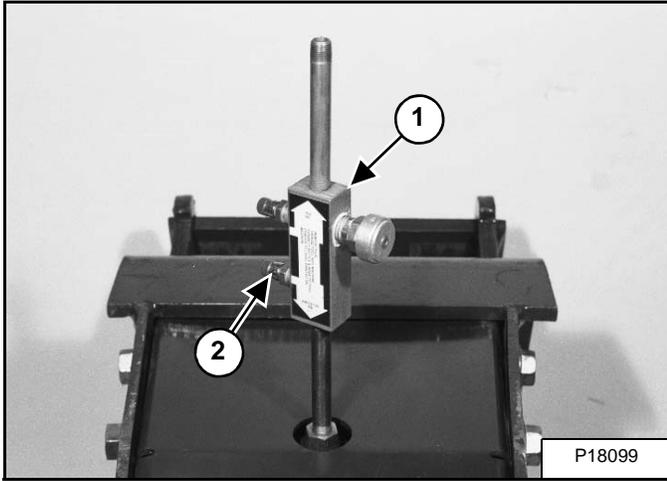


Install the adapter (Item 1) [Figure 10-10-13] on the "Above 100 PSI" side of the charging tool.

NITROGEN CHAMBER (CONT'D)

Charging The HP Nitrogen Chamber (Cont'd)

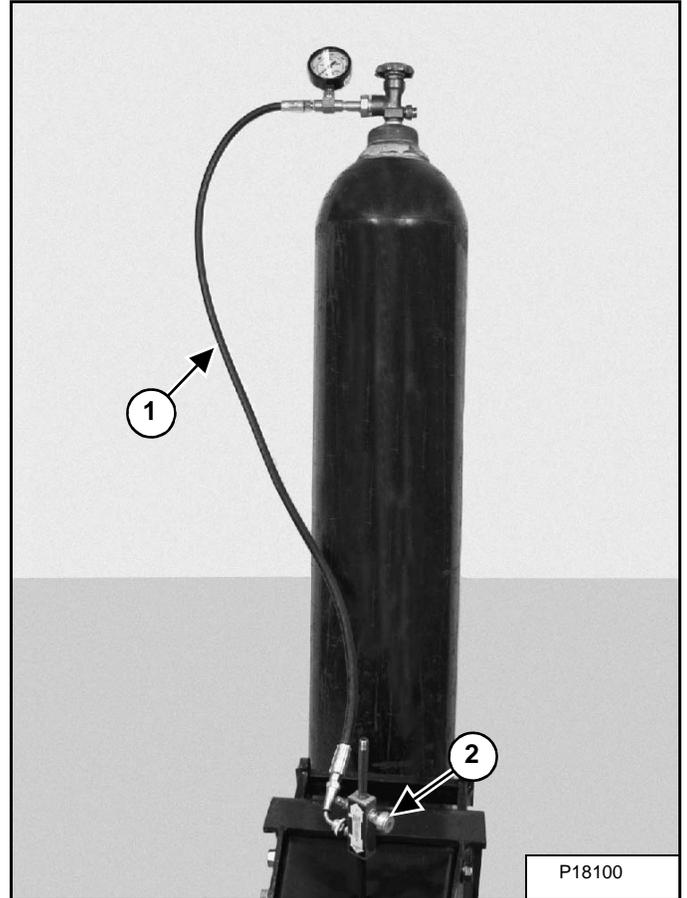
Figure 10-10-14



Install the charging tool (Item 1) [Figure 10-10-14] on the breaker.

Remove the cap (Item 2) [Figure 10-10-14] from the charging tool.

Figure 10-10-15

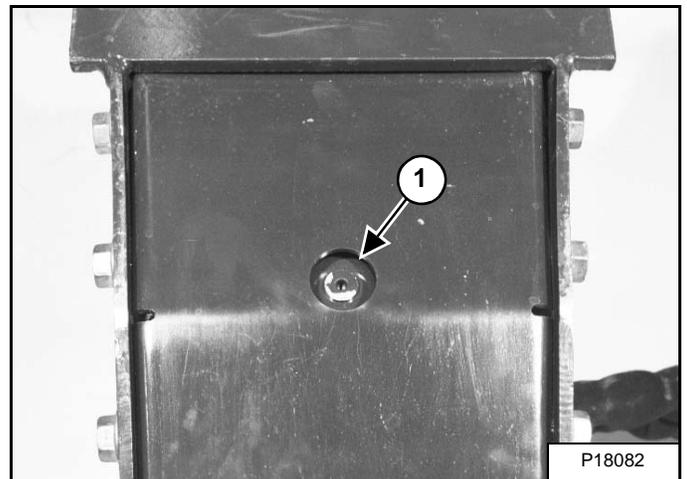


Connect the nitrogen hose (Item 1) to the charging tool (Item 2) [Figure 10-10-15].

Slowly open the valve on the nitrogen tank and fill the nitrogen chamber to 500 PSI (34,48 bar). Close the valve on the nitrogen tank.

Disconnect the hose and charging tool.

Figure 10-10-16



Install and tighten the plug (Item 1) [Figure 10-10-16].

NITROGEN CHAMBER (CONT'D)

Checking The MP Nitrogen Chamber Charge Pressure

! WARNING

Wear safety glasses to prevent eye injury when any of the following conditions exist:

- When fluids are under pressure.
- Flying debris or loose material is present.
- Engine is running.
- Tools are being used.

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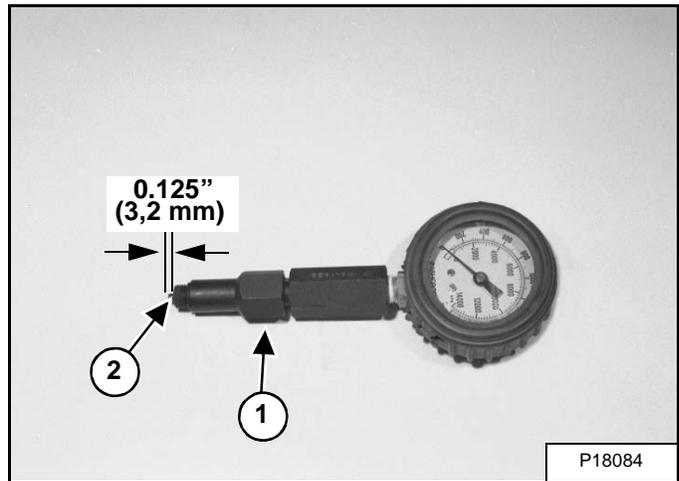
Use the nitrogen accumulator charge pressure gauge MEL1523B to check pressure.

Figure 10-10-17



Remove the plug (Item 1) [Figure 10-10-17].

Figure 10-10-18



Install the correct adapter (Item 1) on the gauge. With the adapter tightened on the gauge, measure the pin (Item 2) [Figure 10-10-18] protrusion.

Manually extend or retract the pin until the pin measures 0.125 in. (3,2 mm) from pin tip to adapter face.

Figure 10-10-19



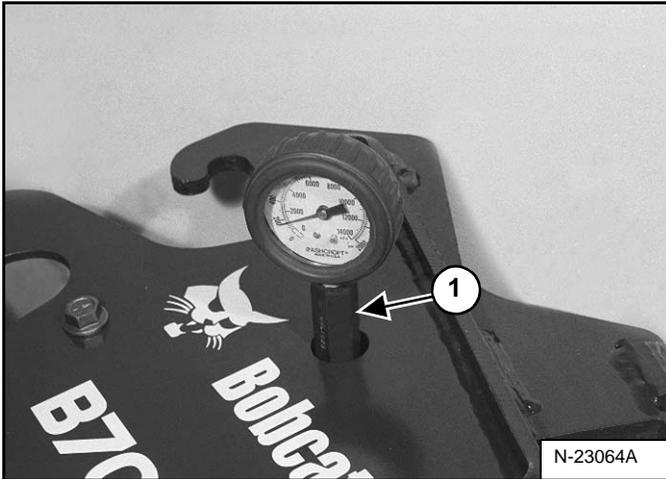
Loosen the adapter until the pin is flush with the end of the adaptor as shown [Figure 10-10-19].

Install the gauge/adaptor on the breaker.

NITROGEN CHAMBER (CONT'D)

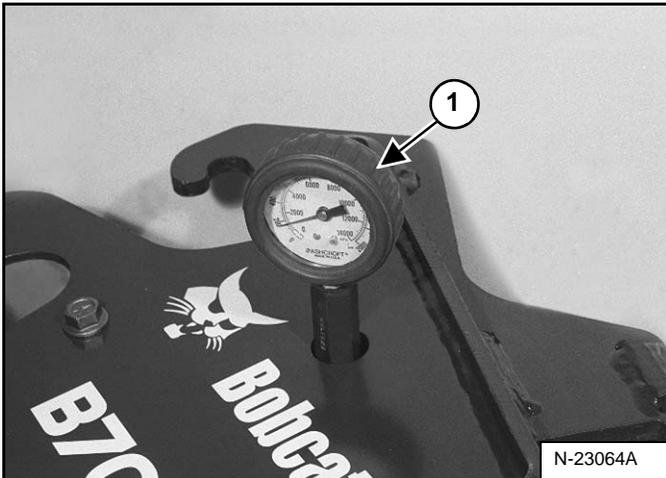
Checking The MP Nitrogen Chamber Charge Pressure (Cont'd)

Figure 10-10-20



Tighten the adapter (Item 1) [Figure 10-10-20] on the breaker.

Figure 10-10-21

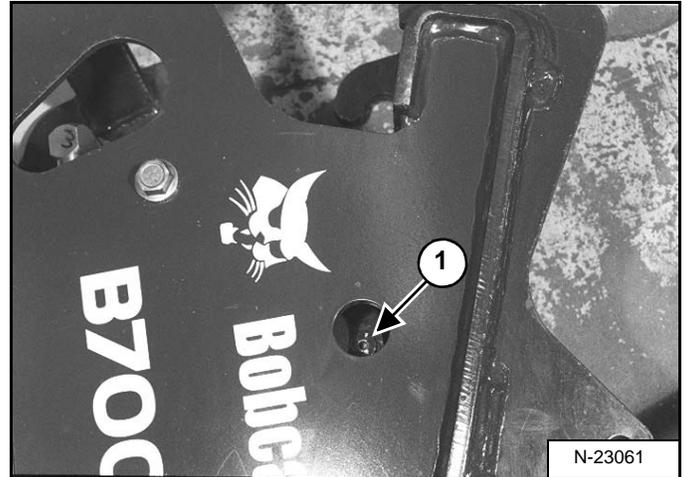


Slowly turn the gauge valve body (Item 1) [Figure 10-10-21] clockwise until the gauge shows a reading. If the pressure is low, recharge the breaker using charging kit number 6568037.

NOTE: The correct charge pressure is 180 PSI (12,41 bar).

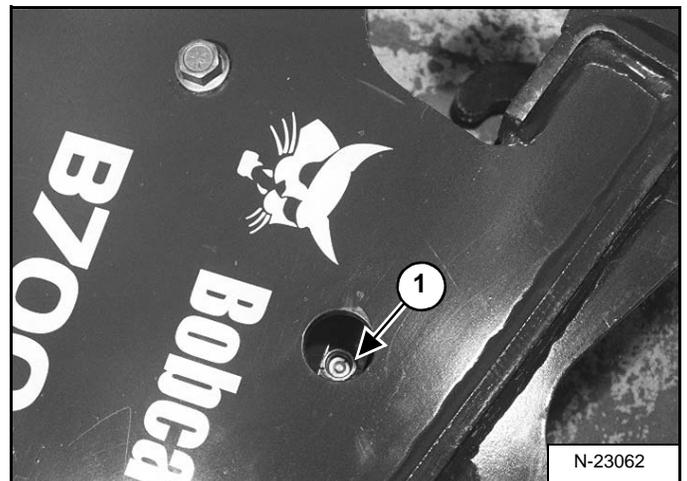
Discharging The MP Nitrogen Chamber

Figure 10-10-22



Remove the plug (Item 1) [Figure 10-10-22] from the charge valve.

Figure 10-10-23



Using a small shaft, push the valve (Item 1) [Figure 10-10-23] inward to release the gas pressure.

Install the plug in the charge valve.

NITROGEN CHAMBER (CONT'D)

Charging The MP Nitrogen Chamber

! WARNING

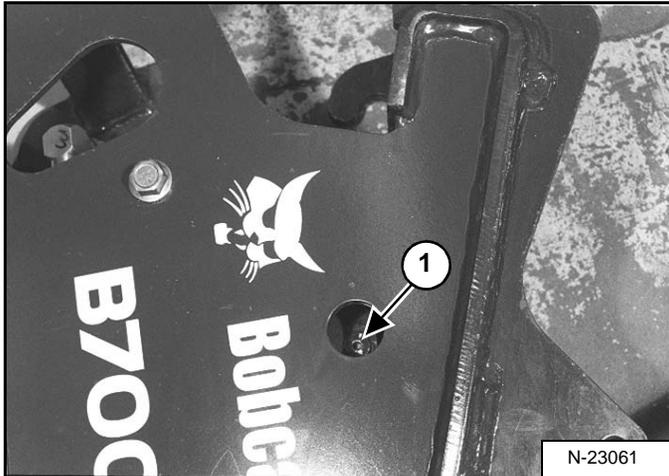
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- Engine is running.
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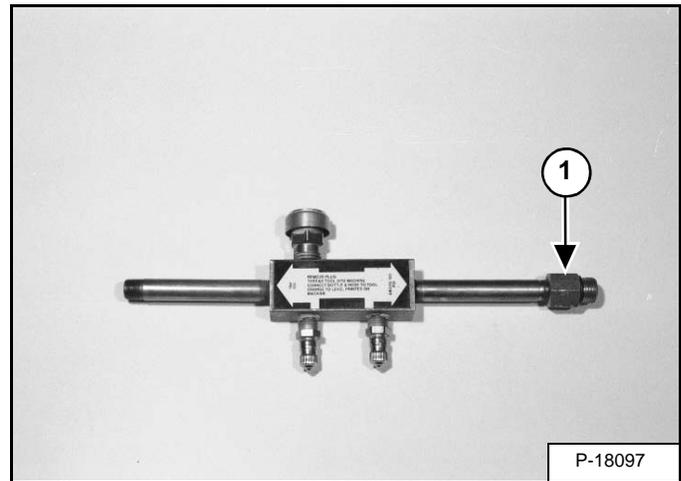
NOTE: When in doubt of nitrogen charge pressure or when recharging a *hot* breaker, release the nitrogen pressure completely and recharge the nitrogen chamber.

Figure 10-10-24



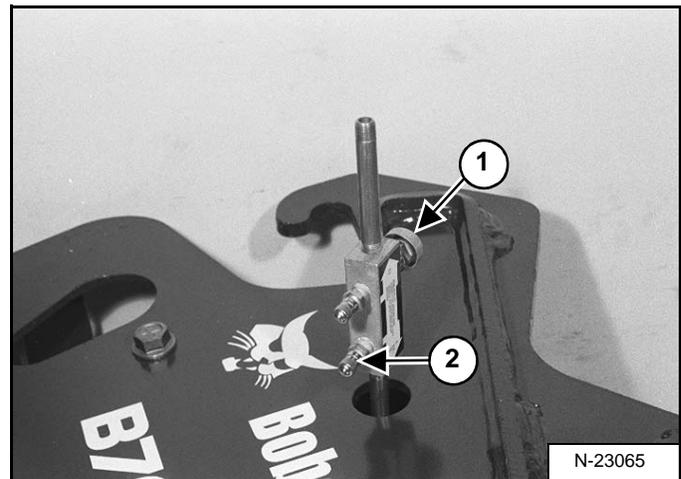
Remove the plug (Item 1) [Figure 10-10-24].

Figure 10-10-25



Install the adapter (Item 1) [Figure 10-10-25] on the "Above 100 PSI" side of the charging tool.

Figure 10-10-26



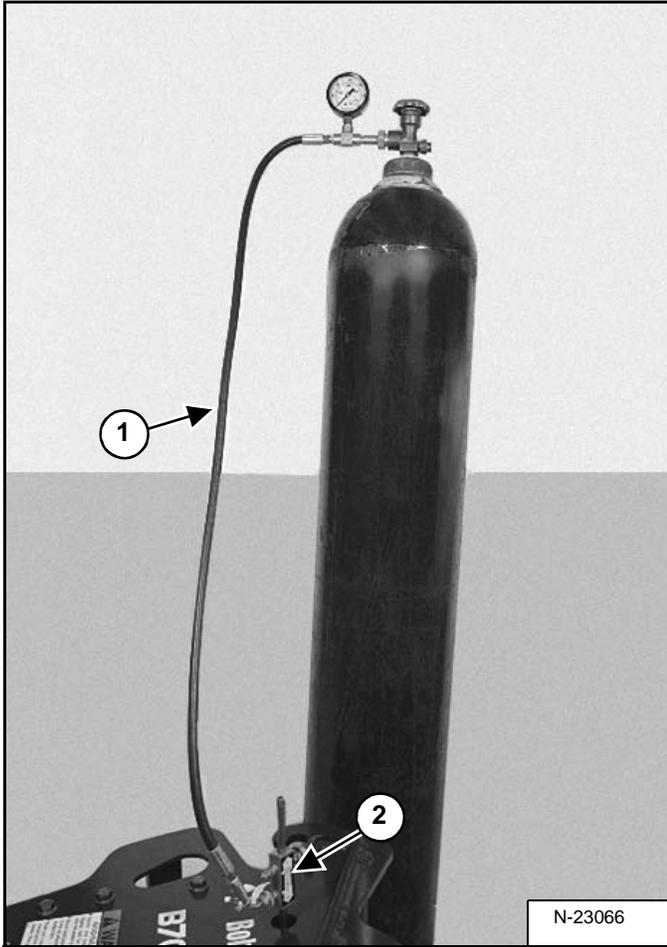
Install the charging tool (Item 1) [Figure 10-10-26] on the breaker.

Remove the cap (Item 2) [Figure 10-10-26] from the charging tool.

NITROGEN CHAMBER (CONT'D)

Charging The MP Nitrogen Chamber (Cont'd)

Figure 10-10-27

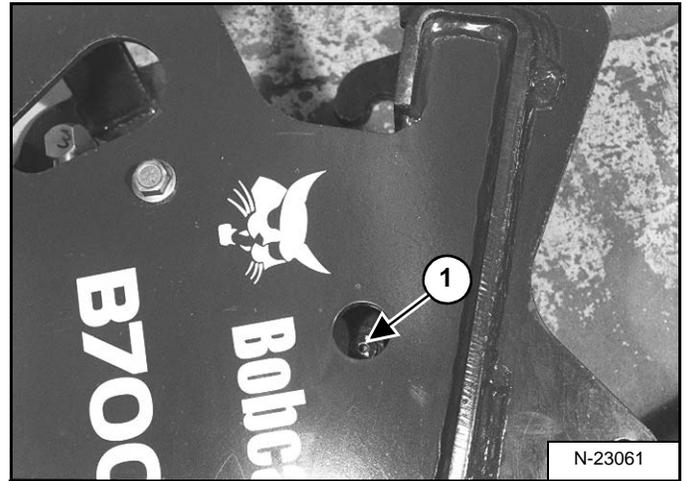


Connect the nitrogen hose (Item 1) to the charging tool (Item 2) [Figure 10-10-27].

Slowly open the valve on the nitrogen tank and fill the nitrogen chamber to 180 PSI (12.41 bar). Close the valve on the nitrogen tank.

Disconnect the hose and charging tool.

Figure 10-10-28



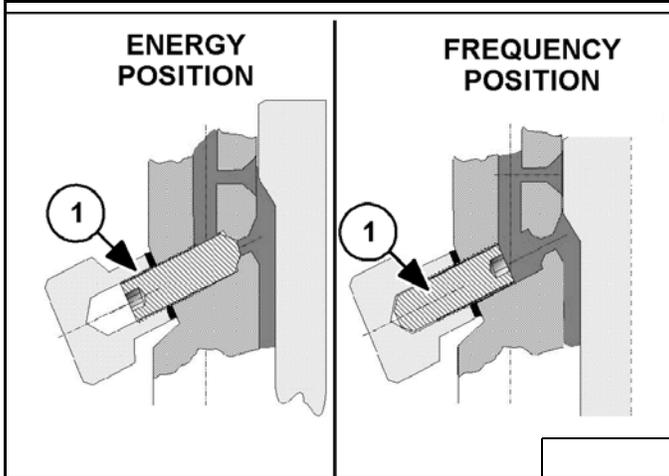
Install and tighten the plug (Item 1) [Figure 10-10-28].

ENERGY/FREQUENCY PISTON

Description

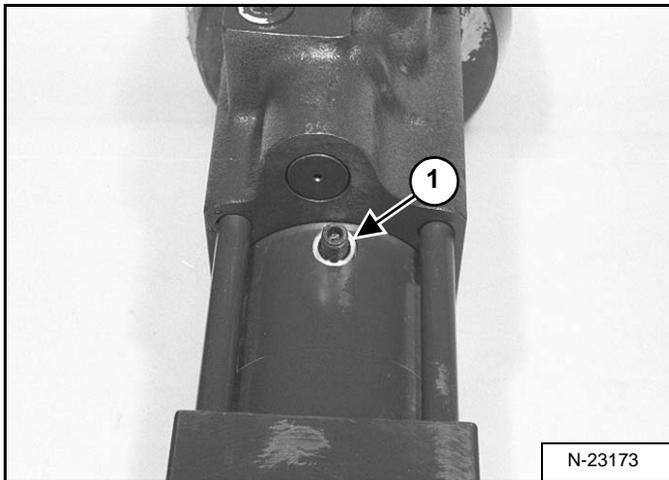
NOTE: Only early model B700 hydraulic breakers are equipped with a energy/frequency piston. Not used on later models.

Figure 10-10-29



On early model B700 breakers only, the breaker is shipped with the energy/frequency piston (Item 1) [Figure 10-10-29] in the energy position.

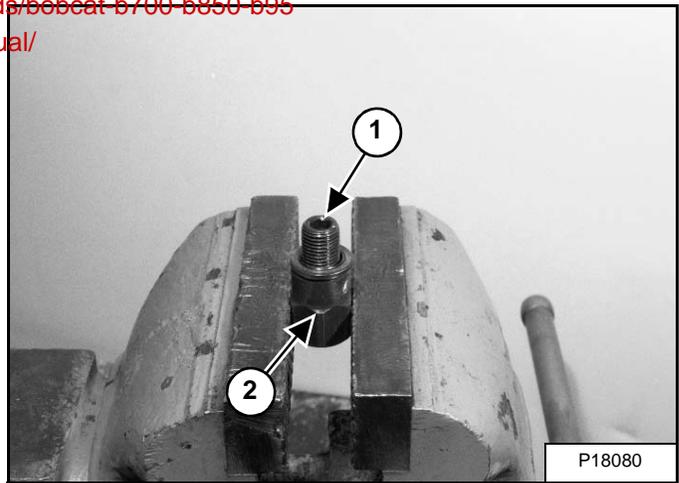
Figure 10-10-30



[Figure 10-10-30] shows the breaker removed from the mounting frame and the energy/frequency piston cap removed for photo clarity.

When the piston (Item 1) [Figure 10-10-29] & [Figure 10-10-30] (energy position) is installed in the breaker body, it provides more break out force with less blows per minute.

Figure 10-10-31

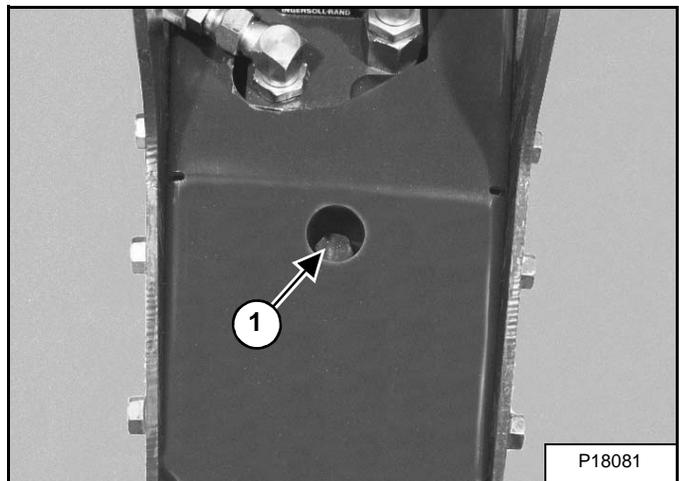


When the piston (Item 1) [Figure 10-10-29] & [Figure 10-10-31] is installed in the cap (Item 2) [Figure 10-10-31] (frequency position) it provides more blows per minute with less breakout force.

For MT50, MT52, MT55, 453, 463 loaders, install the piston in the frequency position. For 553, 751, 753, S130, T140 loaders and 320, 322, 323, 325 and 328 excavators install the piston in the energy position.

Changing The Energy/Frequency Piston Setting

Figure 10-10-32



Remove the plug (Item 1) [Figure 10-10-32] from the breaker.

Sample of manual. Download All 198 pages at:

<https://www.arepairmanual.com/downloads/bobcat-b700-b850-b950-b1400-hydraulic-breaker-service-repair-workshop-manual/>