

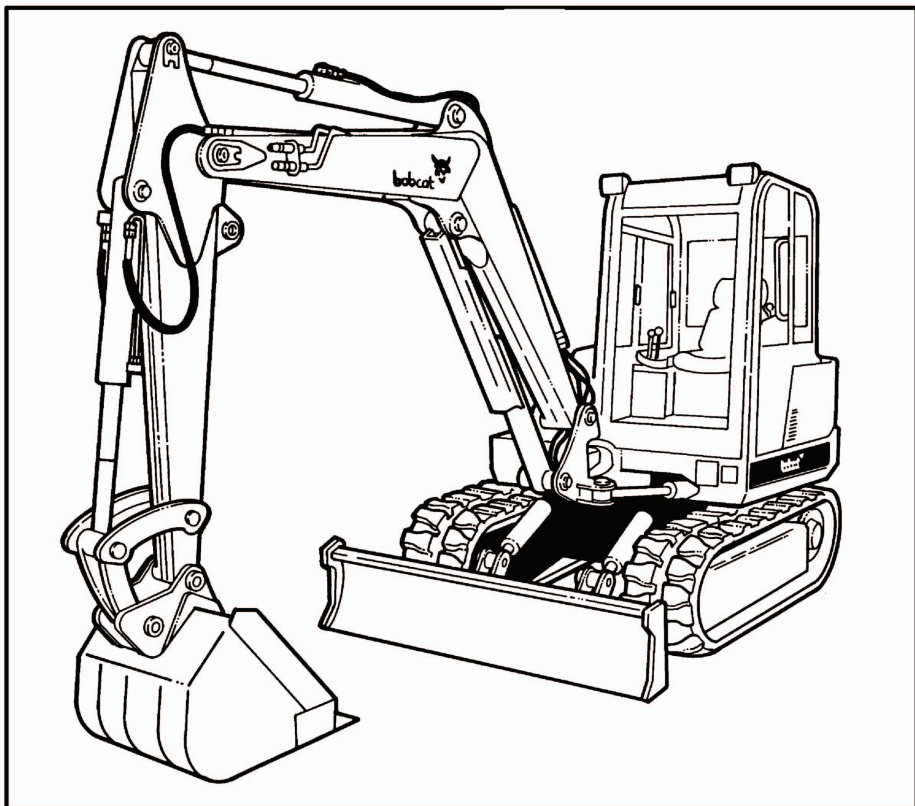
X 337 X 341

Excavator Operation & Maintenance Manual

337 (S/N 515411001 & Above)
341 (S/N 230611001 & Above)



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INGERSOLL-RAND

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SAFETY

INSTRUMENT PANEL

The instrument panel has the following instruments:

PREHEAT INDICATOR LIGHT – (Item 1) [A] – When turning the key switch to the PREHEAT position, the light comes ON, showing the glow plugs are heating.

ENGINE CHARGING LIGHT – (Item 2) [A] – When the alternator output is low the light will come ON.

HYDRAULIC FILTER/ FLUID LIGHT – (Item 1) [B] – When the hydraulic filter is plugged or the hydraulic fluid is overheated, the light comes ON and the audible alarm sounds. STOP the engine.

ENGINE OIL LIGHT – (Item 2) [B] – When the engine oil pressure is low, the light comes ON and audible alarm sounds. STOP the engine.

LOW FUEL INDICATOR LIGHT – (Item 3) [B] – When fuel level is low (approximately 3.0 gals. [11,3 L.]), the light comes ON. Add fuel.

FUEL GAUGE – (Item 4) [B] – Shows the amount of fuel in the tank.

ENGINE TEMPERATURE GAUGE – (Item 5) [B] – Shows engine coolant temperature. Audible alarm sounds and the warning light (Item 6) [B] comes ON when temperature reaches 230°F. (110°C.).

NOTE: To check oil pressure and water temperature lights, turn the key to the ON position. Lights should stay on for 10 seconds. Allow five seconds cooling time and try again.

The hourmeter (Item 1) [C] is located inside the engine compartment.

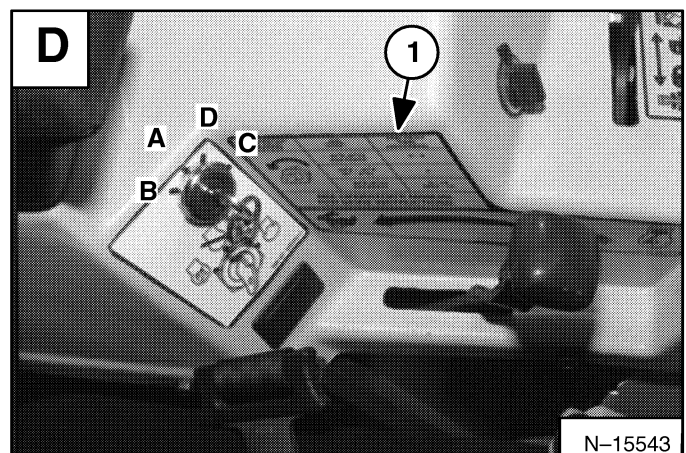
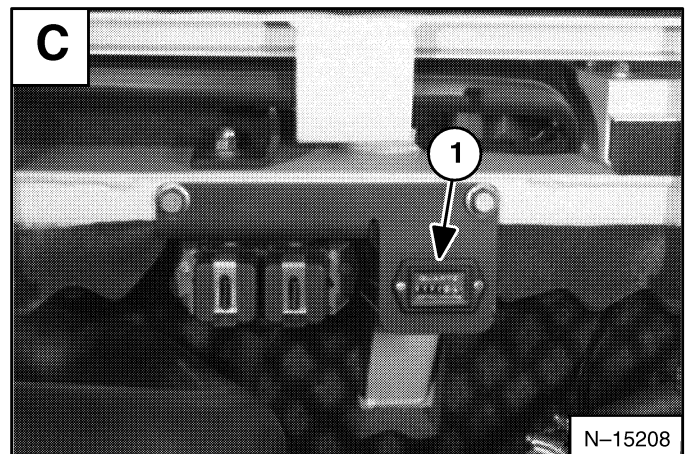
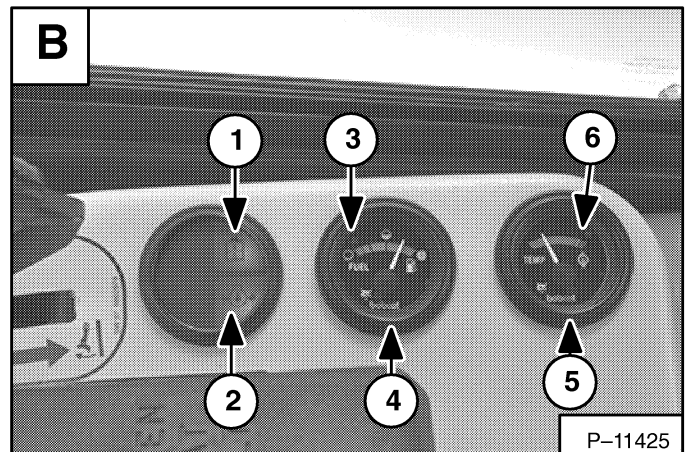
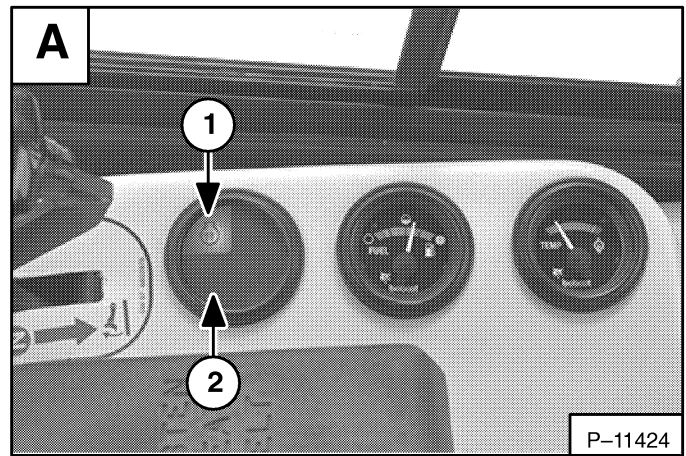
KEY SWITCH

The key switch has the following functions [D]:

- A. Key switch is OFF, and the engine stops
- B. PREHEAT position – Hold switch in this position to activate the glow plugs for starting in cold weather. See Decal (Item 1) [D] for glow plugs heating times. (Also Page 21.)
- C. START the engine.
- D. ON (run) position – When the engine is running release the key and the key will return to this position. The fuel gauge and temperature gauge are illuminated when the key switch is in the ON (run) position.

NOTE: Always turn key switch and all accessories to OFF position after the engine is stopped or battery will discharge. Audible alarm will sound if the key is in the ON position with the engine stopped.

See Pages 20 and 21 for the starting procedure.



AUXILIARY HYDRAULIC PEDAL

Operation

The auxiliary operation pedal (Item 1) [A] controls the auxiliary quick couplers mounted on the left side of the boom.

The excavator is equipped with two-way flow auxiliary lines. Push pedal (Item 1) [A] to activate hydraulic function.



WARNING

AVOID INJURY OR DEATH

Before moving the auxiliary flow control knob:

- Lower the blade to the ground.
- Lower the bucket to the ground.
- Shut-off the engine.

W-2198-0595

AVOID BURNS

Hydraulic fluid, tubes, fittings and quick couplers can get hot when running machine and attachments. Be careful when connecting and disconnecting quick couplers.

W-2220-0396

During two-way flow operations, the female coupler (Item 1) [B] is pressurized when the pedal is pushed to the right and the male coupler (Item 2) [B] is pressurized when the pedal is pushed to the left.

The flow control knob (Item 1) [C] is located in the front right of the excavator.

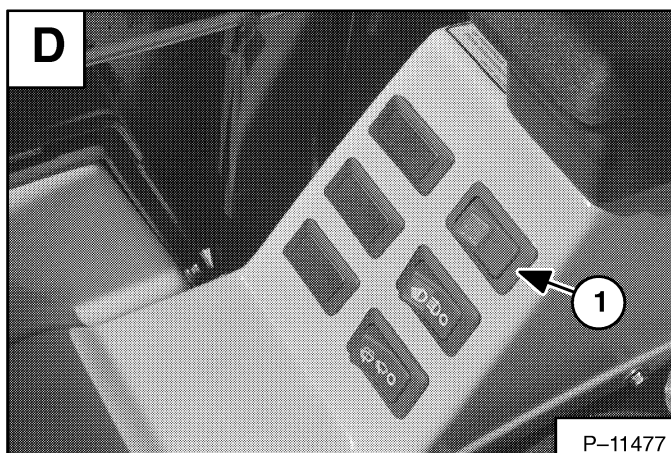
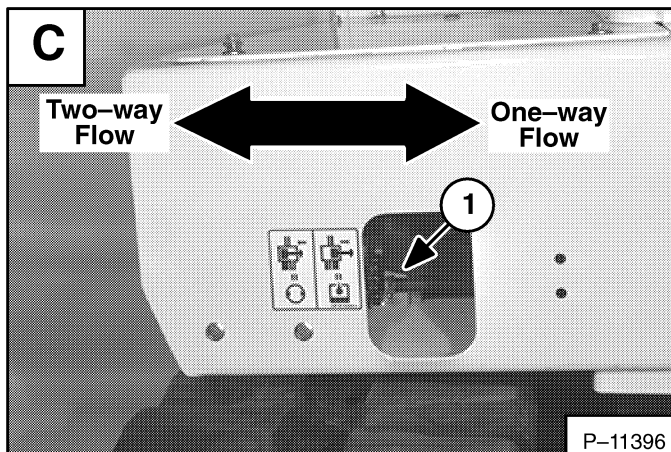
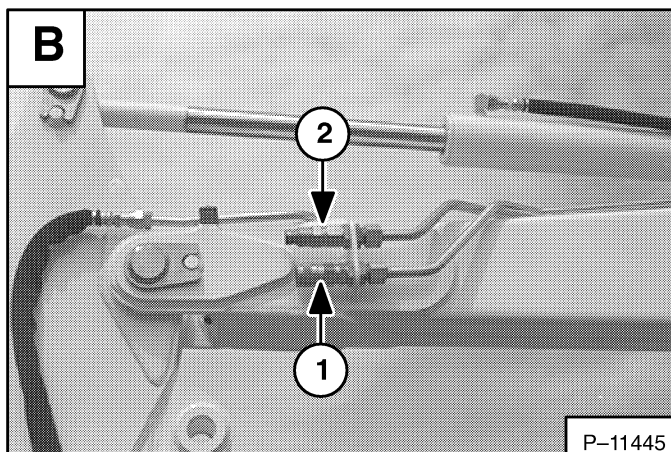
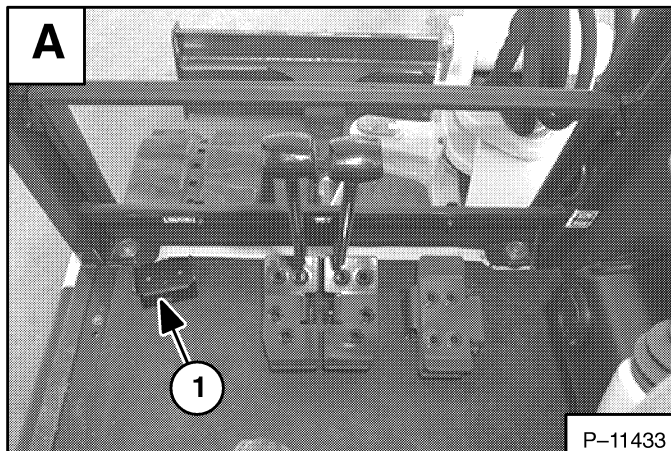
To change to one-way flow for hydraulic breaker operation (for reduced back pressure to tank) pull the knob (Item 1) [C] out. The pedal (Item 1) [A] when pushed to the right only, is now pressurized.

To change two-way flow for hydraulic auger or the other attachment operation push the knob (Item 1) [C] in. The pedal (Item 1) [A] is now pressurized when pushed to the left or the right.

NOTE: Later models have a detent position for flow to the female coupler. Push the pedal fully to the right and the pedal locks in this position. To unlock the detent position, push the pedal to the left and then let go.

Activating the switch (Item 1) [D] forces the hydrostatic pump to stay at constant maximum hydraulic flow that is needed for proper breaker operation.

NOTE: A special application frontal guard kits are available and recommended for use with the hydraulic breaker attachments. See your dealer for availability.



ATTACHMENTS (Using the X-Change™ System) (Cont'd)

Installation

! WARNING

Never use attachments or buckets which are not approved by Bobcat. Buckets and attachments for safe loads of specified densities are approved for each model. Unapproved attachments can cause injury or death.

W-2052-0100

Fully retract the bucket cylinder to release the latch on the X-Change™ [A].

Move the arm towards the bucket.

Raise the boom until the pins (Item 1) [B] engage the hooks (Item 2) [B] on the bucket.

Lift the boom and extend the bucket cylinder until the bucket is in the position shown [C].

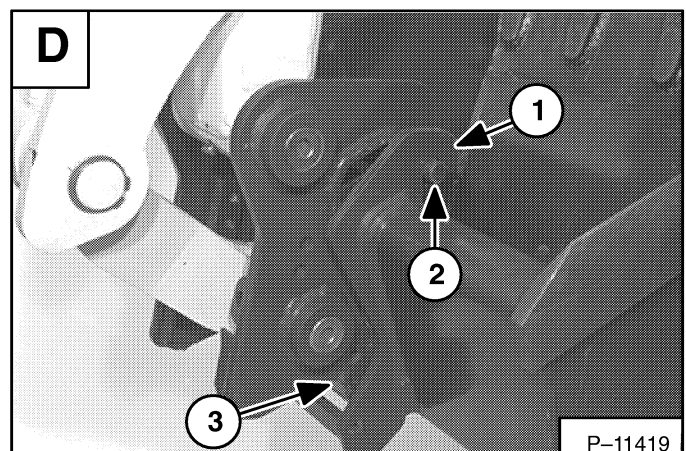
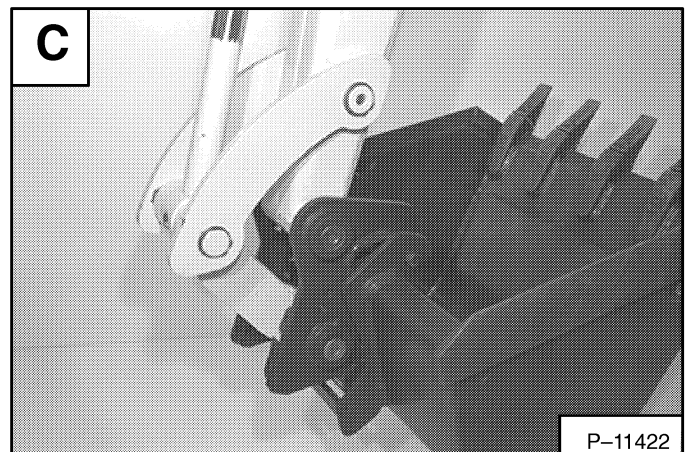
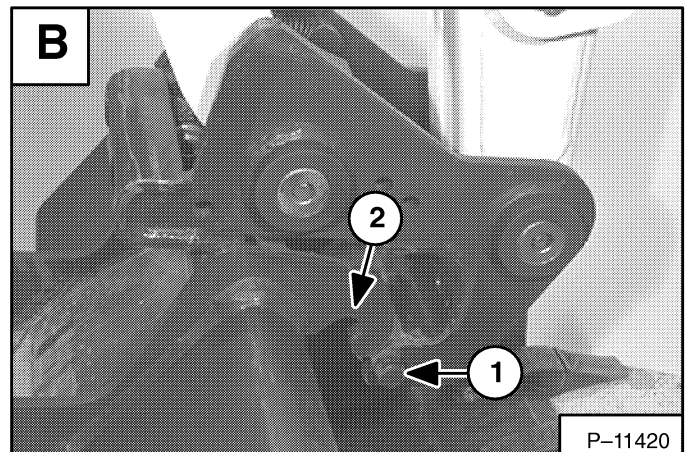
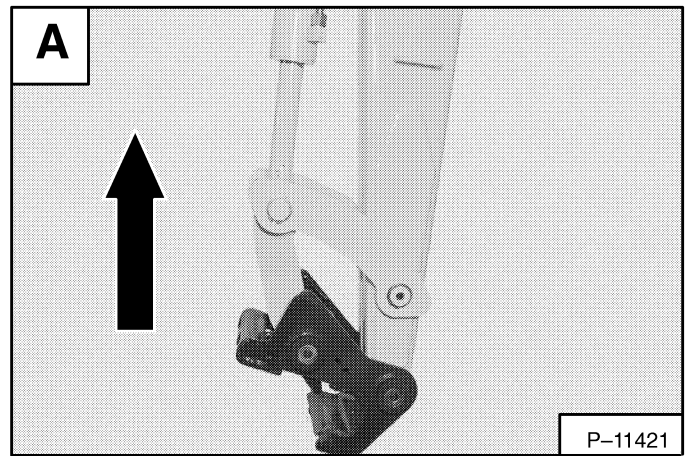
Lower the boom until the hooks (Item 1) [D] of the bucket disengage the pins (Item 2) [D] of the X-Change™ and the plate (Item 3) [D] engages in the bucket crossmember.

! WARNING

Keep all bystanders 20 feet (6 m) away from equipment when operating. Contact with moving parts, a trench cave-in or flying objects can cause injury or death.

W-2119-0788

After the installation of the bucket, lift the boom approximately three feet and fully extend and retract the bucket cylinder to ensure the bucket is securely attached to the X-Change™.



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**PREVENTIVE
MAINTENANCE**

ELECTRICAL SYSTEM

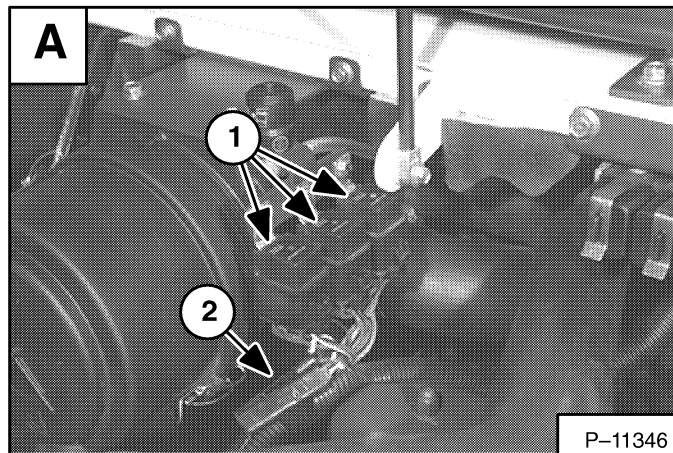
The excavator has a 12 volt, negative ground electrical system.

Electrical Relays And Diodes

The engine harness electrical relays (Item 1) [A] and the diodes (Item 2) [A] are located in the engine compartment to the right of the air cleaner.

The three relays (Item 1) [A] control the starter, glow plugs, and switched power.

The two diodes (Item 2) [A] are for alternator feedback protection and the glow plug during start function.



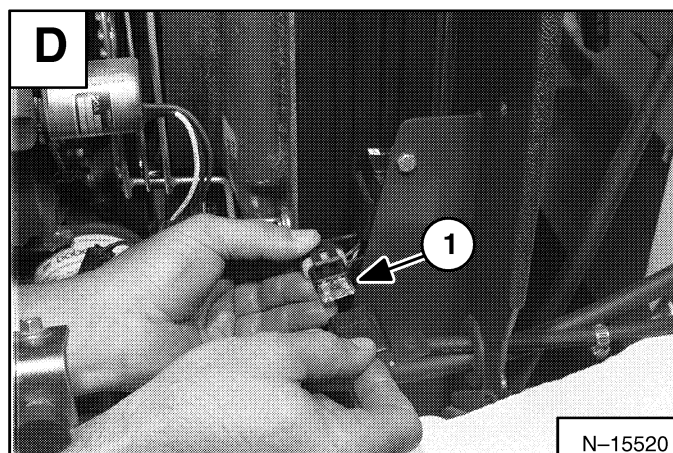
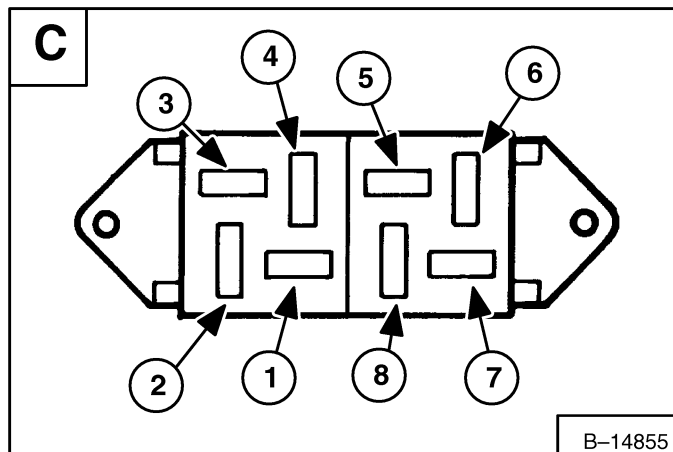
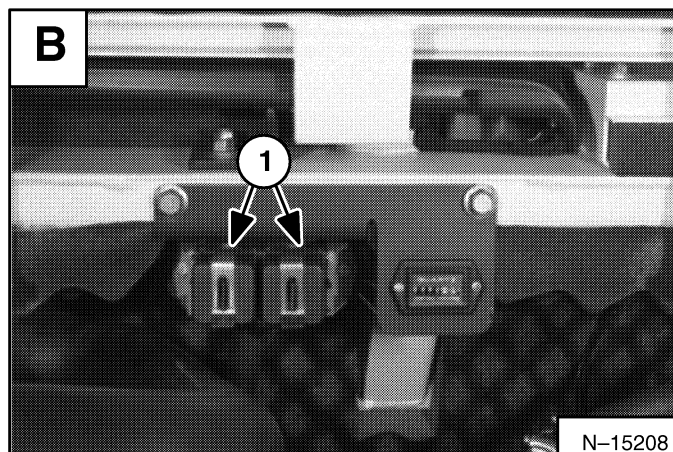
Fuses

The fuses are located in the engine compartment. Remove the two fuse block covers (Item 1) [B].

1. **FUSE** – 10 AMP: This fuse supplies power to the instrument circuit [C].
2. **FUSE** – 10 AMP: This fuse supplies power to the timer solenoid [C].
3. **FUSE** – 20 AMP: This fuse supplies power to the ignition circuit [C].
4. **FUSE** – 15 AMP: This fuse supplies power to the cab wiring (if equipped) [C].
5. **FUSE** – 15 AMP: This fuse supplies power to any accessory that has constant power [C].
6. **FUSE** – 20 AMP: This fuse supplies power to the horn and heater motor [C].
7. **FUSE** – 5 AMP: This fuse supplies power to the wiper motor [C].
8. **FUSE** – 20 AMP: This fuse supplies power to the lights, breaker auxiliary switch, optional second auxiliary hydraulics and option X-Change™ release switches.

The fuse (Item 1) [D] is a 25 amp fuse used on the timer solenoid in addition to (Item 2) [C].

NOTE: Before replacing any fuse, find and fix the problem that caused the circuit overload. Make sure the key switch is in the OFF position before replacing the fuse.



TRACK TENSION

NOTE: The wear of the pins and bushings on the undercarriage vary with the working conditions and the different types of soil conditions. It is necessary to inspect track tension and maintain the correct tension. See Service Schedule Page 35 for the correct service interval.

Adjustment

Raise one side of the machine using the boom and arm [A] (Approximately four inches).

Raise the blade fully and install jackstands under the blade and track frame [A] & [B]. Lower the boom until all machine weight is on the jackstands.

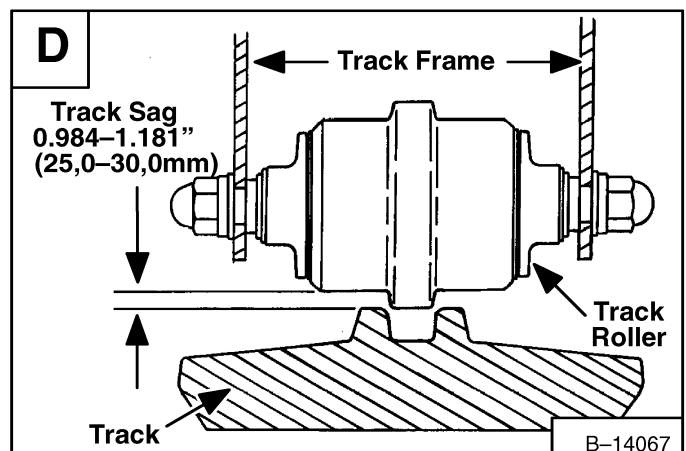
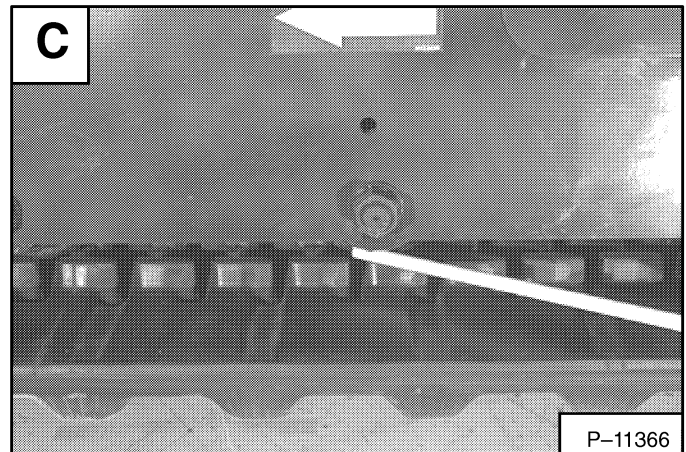
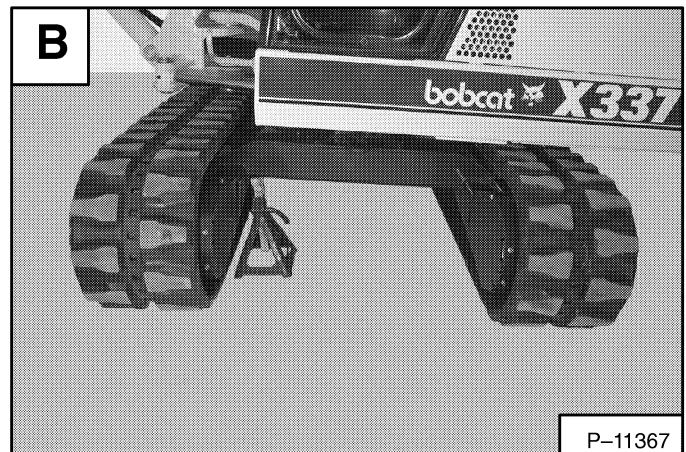
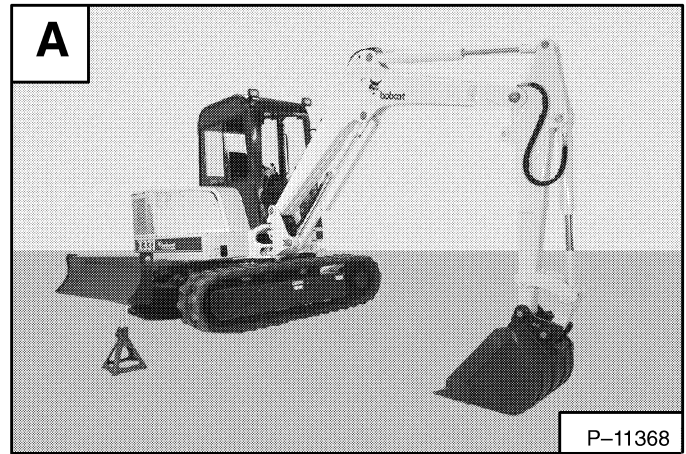
Stop the engine.



Rubber Tracks

Measure the rubber track sag at the middle track roller [C]. Do Not get fingers into pinch points between the track and the track roller. Use a bolt or a dowel of the appropriate size to check the gap between the contact edge of the roller and the top edge of the track guide lug [C] & [D].

Rubber Track Clearance
0.984–1.181 inch (25,0–30,0 mm)



ADVERTENCIA (SPANISH)

Los procedimientos de carga, transporte e izado inadecuados pueden provocar lesiones graves o la muerte.

TRANSPORTE DE LA UNIDAD

- Use rampas metálicas de carga con entablado y superficies antideslizantes.
- Fije las rampas a la plataforma de apoyo del camión.
- Aplique el freno de estacionamiento del camión y bloquee los neumáticos del camión.
- El ángulo de la rampa no debe exceder los 15°.
- El tope de la rampa debe estar a nivel con la cama del camión.
- Empalme el bloqueo del giro.
- Amarre la unidad con cadenas de sujeción y bloquee las orugas.

PARA IZAR LA UNIDAD

- El dispositivo de izado debe tener capacidad adecuada para el peso de la unidad.
- Mantenga el centro de gravedad y el equilibrio al izar.
- No haga girar el pescante o el armazón superior. Aplique el bloqueo del giro.
- Nunca ize cuando el operador está en la unidad.

AVERTISSEMENT (FRENCH)

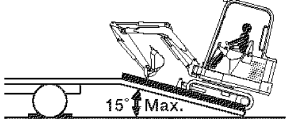
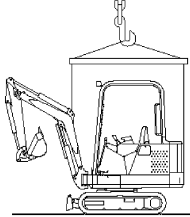
Des procédures de chargement, transport et levage incorrectes risquent de provoquer des blessures graves ou la mort.

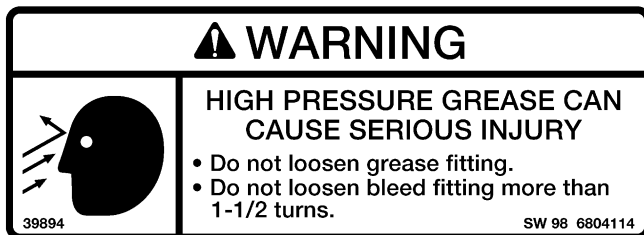
TRANSPORT DE LA MACHINE

- Utilisez une rampe de chargement métallique à surface antidérapante, munie de bordures latérales.
- Fixez la rampe à la plate-forme du camion.
- Serrez le frein de stationnement du camion et calez ses roues.
- L'angle de la rampe ne doit pas dépasser 15°.
- Le haut de la rampe doit être au niveau de la plate-forme du camion.
- Engagez le verrou de pivotement.
- Arrimez la machine avec des chaînes et calez les chenilles.

LEVAGE DE LA MACHINE

- Le dispositif de levage doit avoir la capacité suffisante pour le poids de la machine.
- Veillez à conserver le centre de gravité et l'équilibre lors du levage.
- Ne faites pas pivoter la flèche ni le châssis supérieur. Engagez le verrou de pivotement.
- Ne levez jamais la machine lorsque l'opérateur s'y trouve.

 WARNING	
Improper loading, transporting and lifting procedures can cause serious injury or death.	
TRANSPORTING MACHINE • Use metal loading ramps with boarders and slip resistant surfaces. • Secure ramps to truck bed.  • Engage truck parking brake and block truck tires. • Ramp angle must not exceed 15°. • Top of ramp must be level with truck bed. • Engage swing lock. • Secure machine with hold down chains and block tracks. 39894	LIFTING MACHINE • Lifting device must have adequate capability for weight of machine. • Maintain center of gravity and balance when lifting. • Do not swing boom or upper frame. Engage the swing lock. • Never lift with operator on machine.  SW 98 6804231



ADVERTENCIA (SPANISH)

LA GRASA A PRESIÓN ALTA PUEDE CAUSAR LESIONES SERIAS

- No afloje la grasea.
- No afloje el drenaje de la grasea más de 1-1/2 vueltas

AVERTISSEMENT (FRENCH)

GRAISSE SOUS FORTE PRESSION. RISQUE DE BLESSURES GRAVES

- Ne desserrez pas le graisseur.
- Ne desserrez pas le raccord de purge de plus d'un tour et demi.



ADVERTENCIA (SPANISH)

EL CILINDRO CONTIENE GAS BAJO ALTA PRESION. EL ABNRRIR EL CILINDRO PUEDE SOLTAR LA VARILLA Y CAUSAR HERIDAS O LA MUERTE.

AVERTISSEMENT (FRENCH)

LES VERINS RENFERMENT UN GAZ SOUS PRESSION. NE JAMAIS OUVRIR UN VERIN CAR LA TIGE RISQUE DE S'ÉCHAPPER BRUTALEMENT ET DE CAUSER DES BLESSURES OU MEME LA MORT.



ADVERTENCIA (SPANISH)

Las superficies calientes pueden causar lesiones serias.

No toque.

Permita que se enfríe antes de realizar tareas de mantenimiento.

AVERTISSEMENT (FRENCH)

Risque de brûlures graves sur les surfaces brûlantes.

Ne touchez pas.

Laissez refroidir avant l'entretien.



ADVERTENCIA (SPANISH)

- Fluido presurizado caliente.
- Puede provocar quemaduras graves.

AVERTISSEMENT (FRENCH)

- Fluide brûlant sous pression.
- Risque de brûlures graves.

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