

Doosan purchased Bobcat Company from Ingersoll-Rand Company in 2007. Any reference to Ingersoll-Rand Company or use of trademarks, service marks, logos, or other proprietary identifying marks belonging to Ingersoll-Rand Company in this manual is historical or nominative in nature, and is not meant to suggest a current affiliation between Ingersoll-Rand Company and Bobcat Company or the products of either.

6

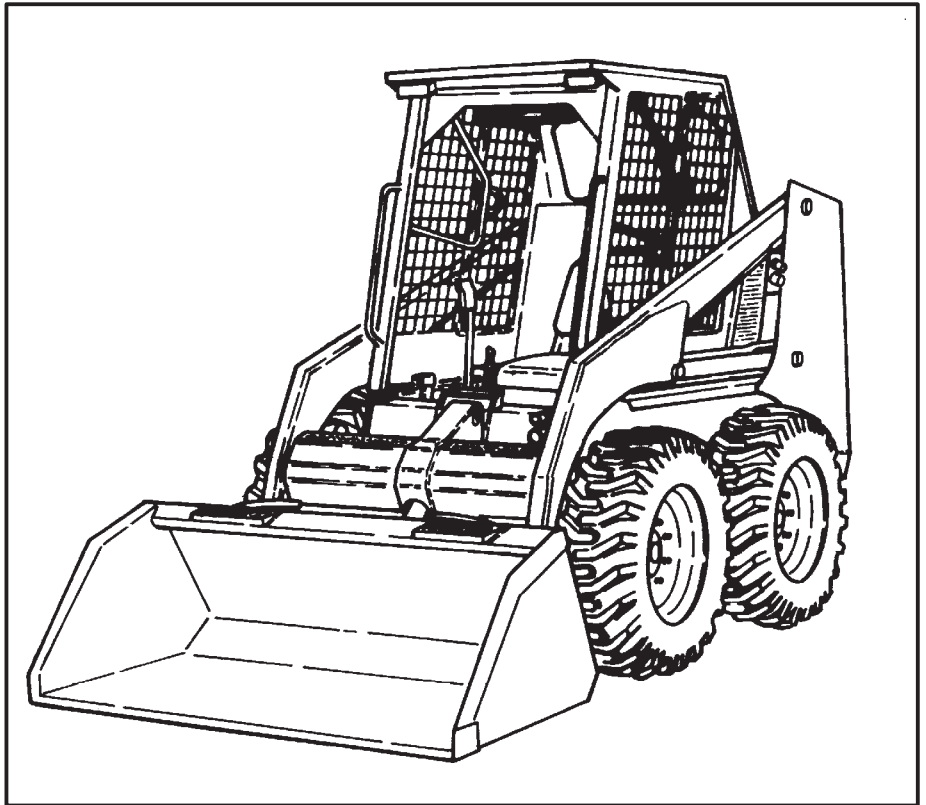
5

3

**FOOT
PEDAL
&
HAND
CONTROL**



Operation & Maintenance Manual



**EQUIPPED WITH
BOBCAT INTERLOCK
CONTROL SYSTEM (BICST™)**

**MELROE
INGERSOLL-RAND**

6900444 (8-97) Revised (5-12)

Printed in U.S.A.



© Melroe Company 1997

CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL

- Thank you very much for reading the preview of the manual.
- You can download the complete manual from: www.heydownloads.com by clicking the link below



- Please note: If there is no response to CLICKING the link, please download this PDF first and then click on it.

CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL

OPTIONS AND ACCESSORIES

Model 653 Bobcat loaders are equipped with the following standard items:

- Bob-Tach
- Spark Arrestor Muffler
- Lift Arm Support Device
- Operator Cab (with ROPS & FOPS Approval)
- Bobcat Interlock Control System (BICS™)
- Seat Belt
- Seat Bar
- Parking Brake
- Gauges/Warning Lights
- Glow Plug Preheat system
- Tires, 7.00 – 15, 6PR

Below is a list of some equipment available as a Factory Installed Option or as a Field Installed Accessory from your Bobcat Loader dealer. See your Bobcat dealer for other available accessories and attachments.

Tires

10–16.5, 6PR Flotation Tires (Machine Width – 54 inches)	Opt. & FA
10–16.5, 6PR Flotation Tires (Machine Width – 60 inches)	Opt. & FA
10–16.5, 8PR Bobcat Heavy Duty (Machine Width – 54 inches)	Opt. & FA
10–16.5, 8PR Bobcat Heavy Duty (Machine Width – 60 inches)	Opt. & FA
31 x 15.5–15, 8PR Ultra Grip Tread	Opt. & FA
6.50–16 Solid Tires	Opt. & FA
7.50 x 15 Air Boss Segmented Tires	FA
10 x 16.5 Air Boss Segmented Tires	FA
10 x 31 Bobcat Solid Tires	FA

Operator Cab

Sound Cab (Reduces Noise at Operator's Ear)	Opt.
Deluxe Cab	Opt. & FA
Operating Lights (Front & Rear)	Opt. & FA
Horn	FA
Back-up Alarm	Opt. & FA
Top Window	FA
Rear Window	FA
Cab Enclosure and Heater	Opt. & FA
Vinyl Cab Enclosure	FA
Hand Control Conversion	Opt. & FA
Cover Kit (Pedals Area)	FA
Cover Kit (Hydraulic Reservoir Area)	FA
Fire Extinguisher	FA
Flasher Lights	FA
Strobe or Rotating Beacon Light	FA
3" Seat Belt	FA
Special Applications Enclosure*	FA
Suspension Seat	Opt. & FA
Rear Window Wiper	FA
Keyless Start System	FA

Opt. = Factory Installed Option
 FA = Field Accessory
 N/A = Not Available

* Includes 1/2 inch Lexan Front Door; 1/4 inch Lexan Top & Rear Windows

Hydraulics

Front Auxiliary Hydraulics	Opt. & FA
Rear Auxiliary Hydraulics	Opt. & FA
Hydraulic Bucket Positioning (Includes On/Off Selection)	Opt. & FA

Other

Catalytic Exhaust Purifier	Opt. & FA
Engine Block Heater	Opt. & FA
Single Point Lift or Four Point Lift	FA
Locking Fuel Cap	FA
Radiator Screen Kit	FA
Rear Door Bumpers	FA
Tailgate Lock	FA
Tool Box	FA
Counterweight Kit	Opt. & FA

**Specifications subject to
change without notice**

OPERATING INSTRUCTIONS

ATTACHMENTS & BUCKETS	21
Installation	22
Removal	23
BOBCAT INTERLOCK CONTROL SYSTEM (BICS™)	4
Auxiliary Hydraulic System	5
Lift Arm By-Pass Control	5
Traction Lock Override	5
DAILY INSPECTION	16
ENGINE SPEED CONTROL	6
GETTING READY FOR OPERATION	17
HYDRAULIC CONTROLS	11
Attachment Functions Control	15
Auxiliary Hydraulics (If Equipped)	13
Auxiliary Hydraulics Switch	14
Continuous Operation	14
Disengage	14
Momentary Operation	14
Bucket Position Valve Operation	11, 12
Foot Pedals	11
Lift Arm Float Position	11
Lift Arm Operation	11
Tilt Operation (Bucket)	11
Front Auxiliary Hydraulics Continuous Operation	14
Front Auxiliary Hydraulics Operation	14
Hand Controls	12
Lift Arm Float Position	12
Lift Arm Operation	12
Tilt Operation (Bucket)	12
Rear Auxiliary Hydraulics Operation	14
Relieving Hydraulic Pressure	15
Front Quick Couplers	15
Rear Quick Couplers	15
Quick Couplers (Flush Face)	13
INSTRUMENT PANEL	3
LIFTING THE LOADER	32
Four Point Lift	32
Single Point Lift	32

**OPERATING
INSTRUCTIONS**

Continued On Next Page

HYDRAULIC CONTROLS

Foot Pedals



WARNING

Keep both feet on pedals while operating machine. Failure to do so can cause serious injury.

W-2002-1285

Put your feet on the pedals and KEEP THEM THERE any time you operate the loader.

Two foot pedals (Item 1) [A] control the hydraulic cylinders for the lift and tilt functions.

Lift Arm Operation

The *left pedal* controls the lift arms. Push on the bottom (heel) (Item 2) [A] of the pedal to raise the lift arms.

Push on the top (toe) (Item 3)[A] of the pedal to lower the lift arms.

Lift Arm Float Position

Push the top (toe) (Item 3)[A] of the pedal all the way forward until it locks into float position.

Use the *float* position of the lift arms to level loose material while driving backward.

Tilt Operation (Bucket)

The *right pedal* controls the action of the bucket. Push the top (toe) (Item 4) [A] of the pedal to tilt the bucket forward.

Push the bottom of the pedal (heel) (Item 5) [A] to tilt the bucket backward.

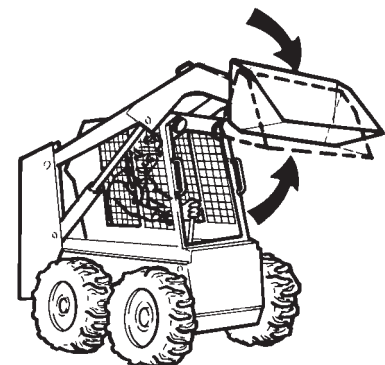
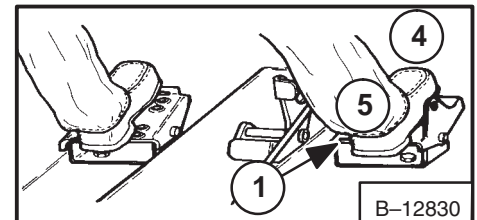
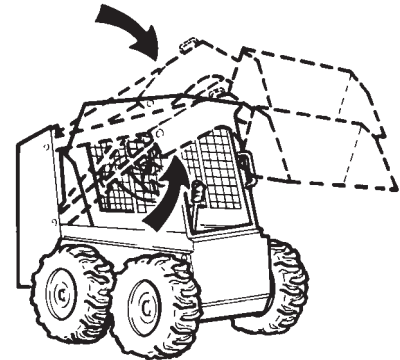
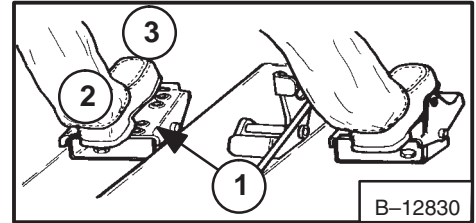
Bucket Position Valve Operation (If Equipped)

The function of the bucket position valve is to keep the bucket in the same approximate position it is placed in before beginning the upward lift cycle.

Bucket positioning functions during the upward lift cycle only.

The bucket positioning function can be turned OFF with the bucket level switch. (See Page 3.)

A



ATTACHMENTS AND BUCKETS

! WARNING

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

W-2052-1285

The dealer can identify, for each model loader, the attachments and buckets approved by Melroe Company. The buckets and attachments are approved for rated operating capacity and for secure fastening to the Bob-Tach.

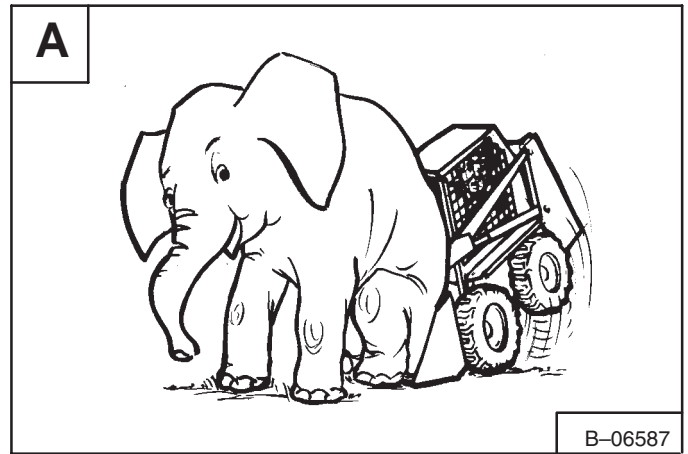
The rated operating capacity for this loader is shown on a label in the operator cab. (See *SPECIFICATIONS* Page 85.) It is determined by using a standard dirt bucket, and material of normal density, such as dirt or dry gravel. If longer buckets are used, the load center moves forward and reduces the rated operating capacity. If very dense material is loaded, the volume must be reduced.

Exceeding the rated operating capacity can cause the following problems:

1. Steering the loader may be difficult.
2. Tires will wear faster.
3. There will be a loss of stability.
4. The life of the Bobcat loader will be reduced.

Use the correct size bucket for the type and density of material being handled. For safe handling of materials and avoiding machine damage, the attachment (or bucket) should handle a full load without going over the rated operating capacity for the loader. Partial loads make steering more difficult.

Maximum load to be carried when using a pallet fork are shown in figure [B]. See your Bobcat dealer for more information about pallet forks and other available attachments.

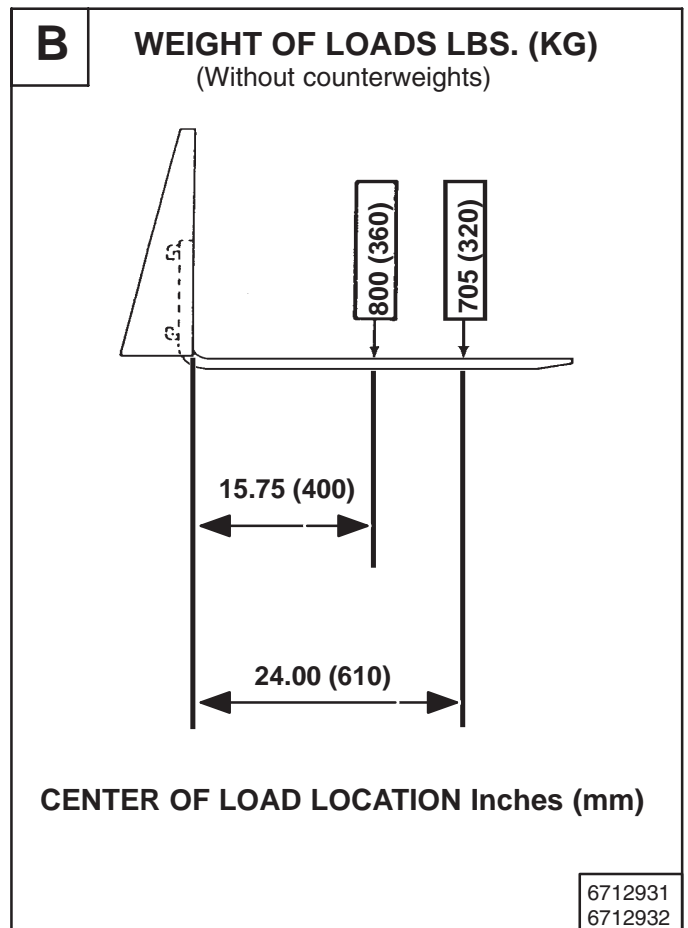


! WARNING

AVOID INJURY OR DEATH

Do not exceed Rated Operating Capacity. Excessive load can cause tipping or loss of control.

W-2053-0887



CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL

- Thank you very much for reading the preview of the manual.
- You can download the complete manual from: www.heydownloads.com by clicking the link below



- Please note: If there is no response to CLICKING the link, please download this PDF first and then click on it.

CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL

TRANSPORTING THE BOBCAT LOADER

WARNING

Adequately designed ramps of sufficient strength are needed to support the weight of the machine when loading onto a transport vehicle. Wood ramps can break and cause personal injury.

W-2058-0494

When a loader has an empty bucket or no attachment, always drive backward onto the transport vehicle **[A]**.

The rear of the trailer must be blocked or supported **[A]** when loading or unloading the loader to prevent the front end of the trailer from raising up.

Be sure the transport and towing vehicles are of adequate size and capacity. (See *SPECIFICATIONS* Page 85, for weight of loader.)

Use the following procedure to fasten the Bobcat loader to the transport vehicle to prevent the loader from moving during sudden stops or when going up or down slopes **[B]**.

- Lower the bucket or attachment to the floor.
- Stop the engine.
- Engage the parking brake.
- Install chains at the front and rear loader tie down positions (Inset **[B]**).
- Fasten each end of the chain to the transport vehicle.

TOWING THE LOADER

To prevent damage to the loader's hydrostatic system, tow the loader only a short distance at slow speed. (Example: Moving the loader onto a transport vehicle).

The towing chain (or cable) must be rated at 1 & 1/2 times the weight of the loader. (See *SPECIFICATIONS* Page 85.)

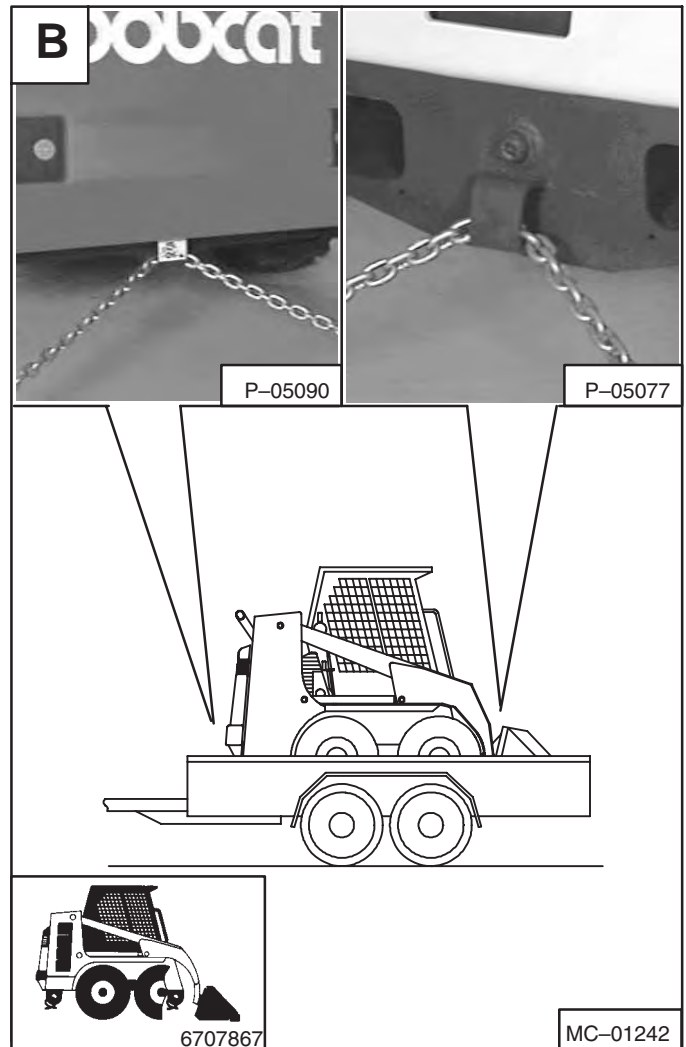
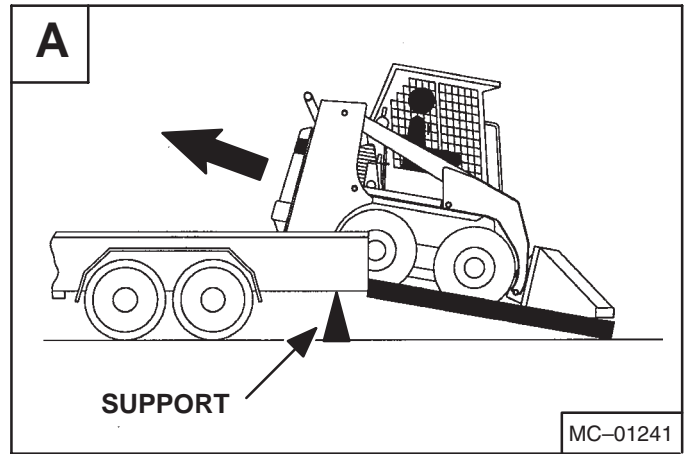
- Turn the key switch to ON and press the traction lock override button.
- Tow the Bobcat at 2 MPH (3,2 km/hr) or less for not more than 25 feet (7,6 meters).

If the electrical system is not functioning, contact your Bobcat loader dealer. (Part of the brake system must be disassembled to move the loader.)

STOPPING THE BOBCAT LOADER

Move the steering levers to the NEUTRAL POSITION.

The hydrostatic transmission will act as a *service brake* to stop the loader.



SEAT BAR RESTRAINT SYSTEM (FOOT PEDALS)

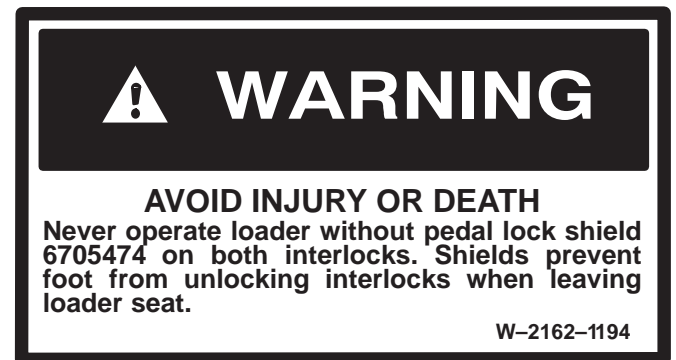
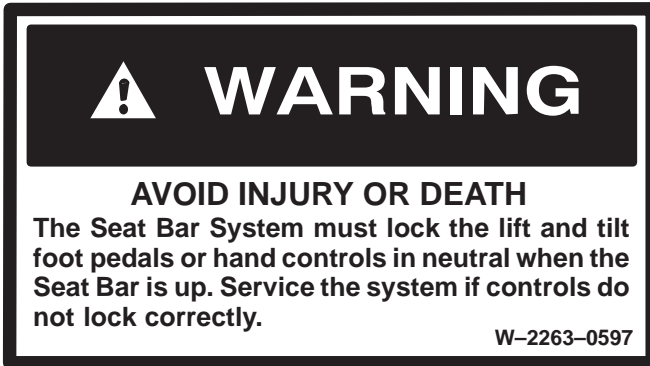
The seat bar restraint system has a pivoting, spring assist* seat bar with arm rests and has spring loaded interlocks for the lift and tilt control pedals.

The operator controls the use of the seat bar. The seat bar in the down position helps to keep the operator in the seat.

The interlocks require the operator to lower the seat bar in order to operate the foot pedal controls.

When the seat bar is up, the lift and tilt pedals are locked when returned to the NEUTRAL POSITION.

*Early models have a gas spring.



Inspecting The Seat Bar

Sit in the seat and fasten the seat belt. Engage the parking brake. Pull the seat bar all the way down. Start the engine. Operate each foot pedal to check both the lift and tilt functions. Raise the lift arms until the bucket is about 2 feet (600 mm) off the ground.

Raise the seat bar. Try to move each foot pedal. Pedals must be firmly locked in neutral position. There must be no motion of the lift arms or tilt (bucket) when the pedals are pushed.

Pull the seat bar down, lower the lift arms. Operate the lift pedals. While the lift arms are going up, raise the seat bar and the lift arms should stop.

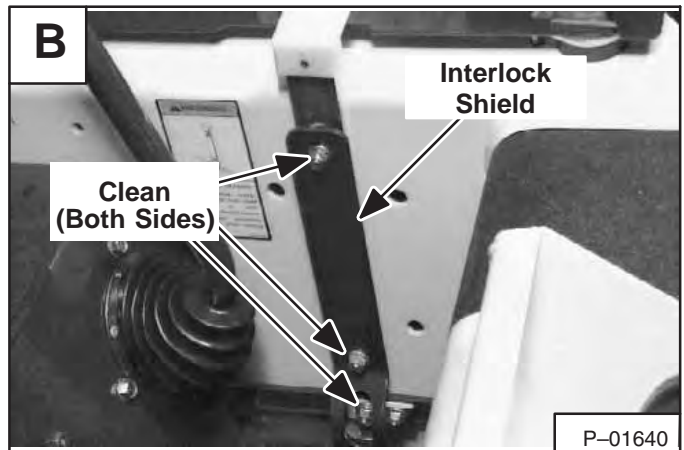
Lower the seat bar, lower the lift arms and place the bucket flat on the ground. Stop the engine. Raise the seat bar and operate the foot pedals to be sure that the pedals are firmly locked in the neutral position. Unbuckle the seat belt.

Maintaining The Seat Bar

See the *SERVICE SCHEDULE* Page 37 and on the loader for correct service interval.

Clean any debris or dirt from the moving parts [A] & [B]. Inspect the linkage bolts and nuts for tightness. The correct torque is 25–28 ft.-lbs. (34–38 Nm).

If the seat bar system does not function correctly, check for free movement of each linkage part. Check for excessive wear. Adjust pedal control linkage. Replace parts that are worn or damaged. Use only genuine Bobcat replacement parts.



FUEL SYSTEM

Fuel Specifications

Use only clean, high quality diesel fuel, Grade No. 2 or Grade No. 1.

The following is one suggested blending guideline which should prevent fuel gelling problems:

Temp. F° (C°)	No. 2	No.1
+15°(9°)	100%	0%
Down to -20° (-29°)	50%	50%
Below -20° (29°)	0%	100%

Contact your fuel supplier for local recommendations.

Filling the Fuel Tank

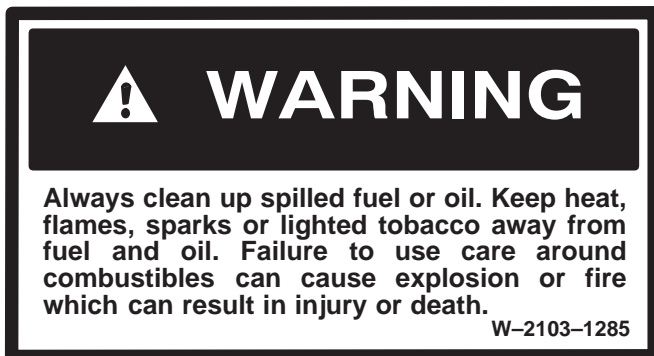


Remove the fuel fill cap (Item 1) [A].

Use a clean, approved safety container to add fuel of the correct specifications. Add fuel only in an area that has free movement of air and no open flames or sparks. **NO SMOKING!** [B].

Install and tighten the fuel fill cap [A].

Fuel Filter



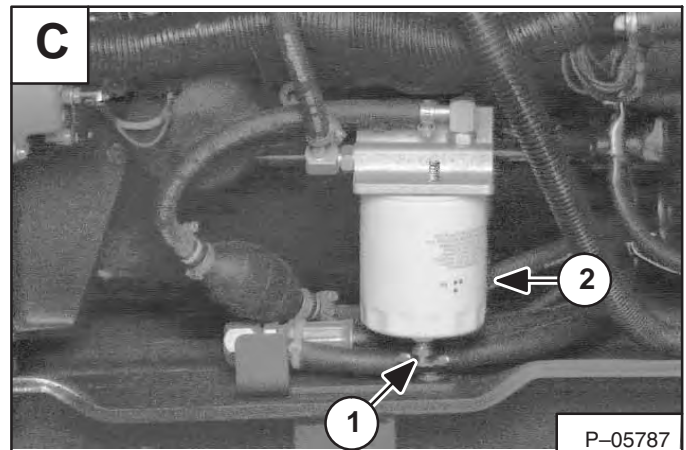
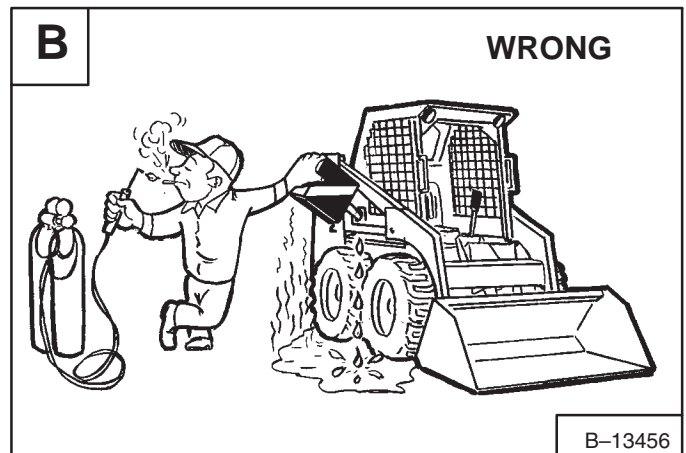
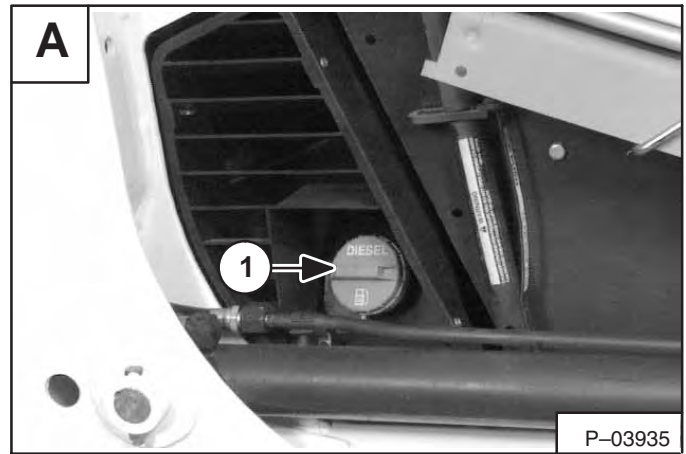
See the *SERVICE SCHEDULE* Page 37 for the service interval when to remove the water from the fuel filter.

Loosen the drain (Item 1) [C] at the bottom of the filter element to drain any water from the filter.

See the *SERVICE SCHEDULE* Page 37 for the service interval when to replace the fuel filter.

To replace the fuel filter element, use a filter wrench to remove the filter element (Item 2) [C].

Clean the area around the filter housing. Put oil on the seal of the new filter element. Install the fuel filter, and hand tighten. Remove the air from the fuel system. (See Page 52.)



ELECTRICAL SYSTEM

Description

The loader has a 12 volt, negative ground alternator charging system. The electrical system is protected by fuses located in the engine compartment. The fuses will protect the electrical system when there is an electrical overload. The reason for the overload must be found before starting the engine again.

Cleaning Battery Terminals

The battery cables must be clean and tight. Check the water level in the battery. Remove any acid or corrosion from the battery and cables with a sodium bicarbonate and water solution [A].

Put grease on the battery terminals and cable ends to prevent corrosion.

WARNING

Batteries contain acid which burns eyes and skin on contact. Wear goggles, protective clothing and rubber gloves to keep acid off body.

In case of acid contact, wash immediately with water. In case of eye contact get prompt medical attention and wash eye with clean, cool water for at least 15 minutes.

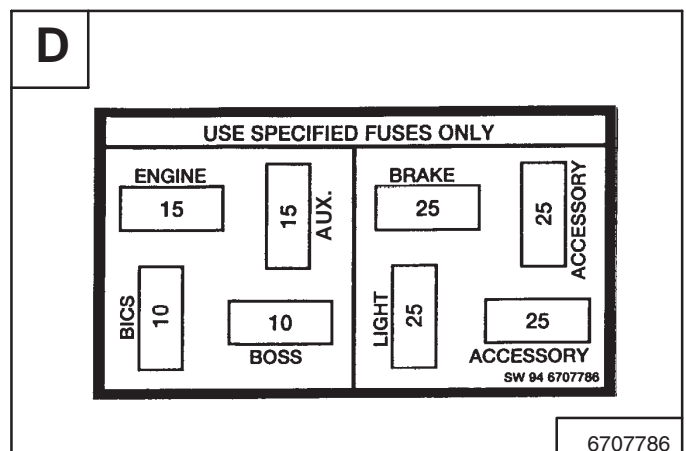
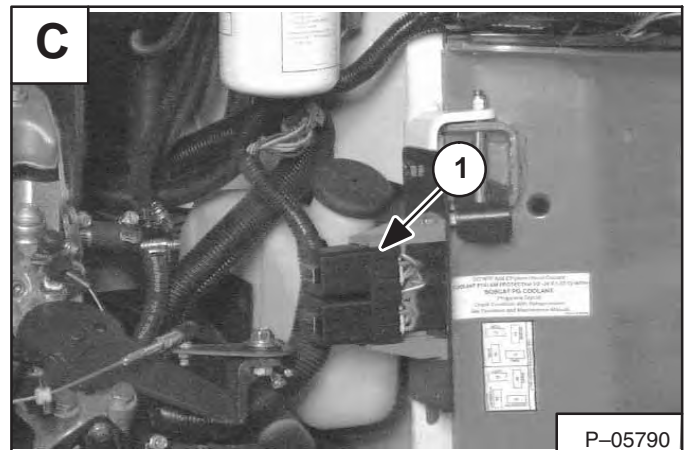
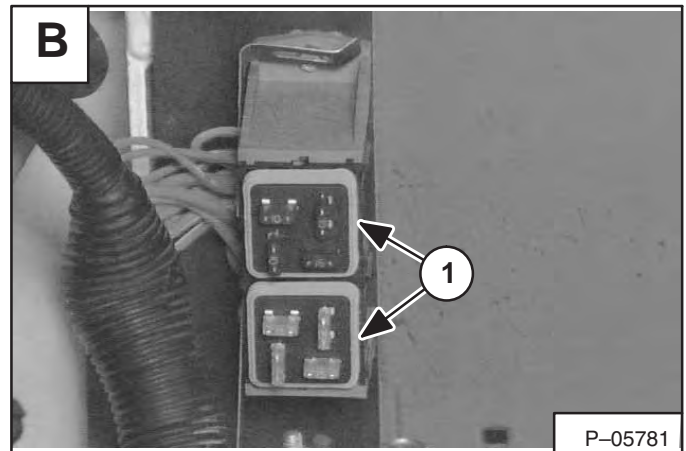
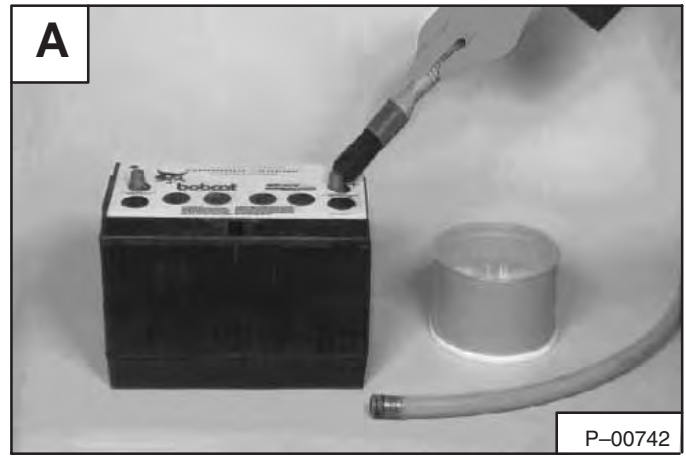
If electrolyte is taken internally drink large quantities of water or milk! DO NOT induce vomiting. Get prompt medical attention.

W-2065-1296

Fuse Location

The electrical system for loaders is protected by eight fuses (Item 1) [B] located in the fuse block (Item 1) [C]. Remove the fuse block cover to access the fuses. Fuses protect the electrical system from an overload. The fuse block (Item 1) [C] is located in the engine compartment mounted on the upper rear door hinge bracket.

The decal inside the rear door specifies the fuse sizes used in loader circuits [D].




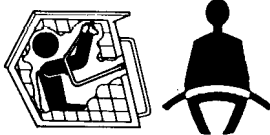
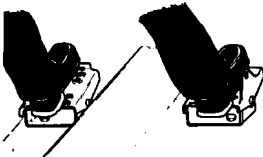

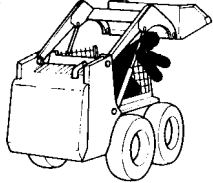
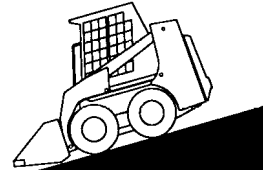




SYSTEMS ANALYSIS

BOBCAT INTERLOCK CONTROL SYSTEM (BICS™)
Troubleshooting Chart 73..

**SYSTEMS
ANALYSIS**

⚠ WARNING

AVOID INJURY OR DEATH

 <p>NEVER USE THE LOADER WITHOUT INSTRUCTIONS. READ OPERATION AND MAINTENANCE MANUAL AND HANDBOOK.</p>	 <p>USE SEAT BAR. FASTEN SEAT BELT SECURELY.</p>	 <p>KEEP FEET ON PEDALS.</p>	TO LEAVE THE LOADER:	
 <p>DO NOT TRAVEL OR TURN WITH LIFT ARMS UP. LOAD, UNLOAD AND TURN ON FLAT LEVEL GROUND. DO NOT EXCEED RATED OPERATING CAPACITY (SEE SIGN ON LOADER).</p>	 <p>NEVER MODIFY EQUIPMENT OR USE ATTACHMENTS NOT APPROVED BY MELROE COMPANY.</p>	 <p>ON SLOPES, KEEP HEAVY END OF LOADER UPHILL.</p>	1  <p>LOWER THE LIFT ARMS PUT ATTACHMENT FLAT ON GROUND.</p>	2  <p>STOP THE ENGINE</p>
			3  <p>ENGAGE THE BRAKE.</p>	4  <p>RAISE SEAT BAR. MOVE PEDALS UNTIL BOTH LOCK.</p>
<p>Weitere Anweisungen finden sie in der Bedienungs- und Instandhaltungsanleitung. Para más instrucciones, vea el Manual de Operación y Mantenimiento. Voir le Manuel de l'opérateur et d'entretien pour d'autres renseignements.</p> <p>6579510</p>				

Solamente con control de piso

ADVERTENCIA (SPANISH)

EVITE HERIDAS O LA MUERTE

NO USE NUNCA EL CARGADOR SIN LEER LAS INSTRUCCIONES.

LEA EL MANUAL DEL OPERADOR, EL MANUAL DE SERVICIO Y LA GUÍA DEL OPERARIO.

NO VIAJE O DE LA VUELTA CON LOS BRAZOS DE ELEVACION ARRIBA.

CARGUE, DESCARGUE Y DE LA VUELTA ESTANDO EN UN SITIO PLANO Y NIVELADO.

NO EXCEDA LA CAPACIDAD NOMINAL DE FUNCIONAMIENTO (VEA EL AVISO EN EL CARGADOR).

USE LA BARRA DEL ASIENTO.
ASEGURESE BIEN EL CINTURON DE SEGURIDAD.

NUNCA MODIFIQUE EL EQUIPO NI USE ADITAMENTOS QUE NO ESTEN APROBADOS POR LA COMPAÑIA MELROE.

MANTENGA LOS PIES EN LOS PEDALES.

EN LAS PENDIENTES, MANTENGA EL EXTREMO PESADO DE CARGADOR EN POSICION ASCENDENTE.

ANTES DE BAJARSE DEL CARGADOR

1. BAJE LOS BRAZOS DE ELEVACION.
COLOQUE EL ADITAMENTO BIEN EN EL SUELO.
2. PARE EL MOTOR.
3. PONGA EL FRENO.
4. LEVANTE LA BARRA DEL ASIENTO.
MUEVA LOS PEDALES HASTA QUE AMBOS SE TRABEN.

Commande au pied seulement

ATTENTION (FRENCH)

EVITER LES BLESSURES OU LA MORT

NE JAMAIS SE SERVIR DE LA CHARGEUSE SANS INSTRUCTIONS.

LIRE LE MANUEL DE L'OPERATEUR ET D'ENTRETIEN AINSI QUE LE GUIDE D'UTILISATION.

NE PAS SE DEPLACER NI VIRER AVEC LE BRAS RELEVES.

CHARGER, DECHARGER ET VIRER SUR UN SOL PLAT ET HORIZONTAL.

NE PAS DEPASSER LE CAPACITE NOMINALE (CONSULTER L'AUTOCOLLANT APPOSE SUR LA CHARGEUSE).

UTILISER L'ARCEAU DE SECURITE.
ATTACHER SOIGNEUSEMENT LA CEINTURE DE SECURITE.

NE JAMAIS MODIFIER L'EQUIPEMENT NI SE SERVIR D'ACCESSOIRES QUE NE SONT PAS APPROUVES PAR MELROE COMPANY.

MAINTENIR LES PIEDS SUR LES PEDALES.

DANS LES PENTES, TOUJOURS MAINTENIR LA PARTIE LA PLUS LOURDE DE LA CHARGEUSE VERS LE HAUT.

POUR QUITTER LA CHARGEUSE:

1. ABAISSER LES BRAS DE LEVAGE.
POSER L'EQUIPEMENT A PLATE SUR LE SOL.
2. ARRETER LE MOTEUR.
3. ENCLANCHER LE FREIN DE STATIONNEMENT.
4. RELEVER L'ARCEAU DE SECURITE.
DEPLACER LES PEDALES JUSQU'A CE QU'ELLES SOIENT TOUTES DEUX VERROILLEES.

CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL

- Thank you very much for reading the preview of the manual.
- You can download the complete manual from: www.heydownloads.com by clicking the link below



- Please note: If there is no response to CLICKING the link, please download this PDF first and then click on it.

CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL