# BL–470
# BL–475

Ingersoll-Rand

# Operation & Maintenance Manual

**BL–470 (S/N 570511001 & Above)**
**BL–475 (S/N 571911001 & Above)**



Ingersoll-Rand

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**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.

## REFERENCE INFORMATION

Write the correct information for YOUR Ingersoll–Rand loader backhoe in the spaces below. Always use these numbers when referring to your Ingersoll–Rand loader backhoe.

Loader Backhoe Serial Number . . . _____
_____
_____
_____

**NOTES:** _____
_____
_____
_____
_____
_____
_____
_____

**YOUR LOADER DEALER:** _____
**ADDRESS:** _____
**PHONE:** _____

Ingersoll–Rand Company
Infrastructure Sector
312 Ingersoll Drive
Shippensburg, PA 17257



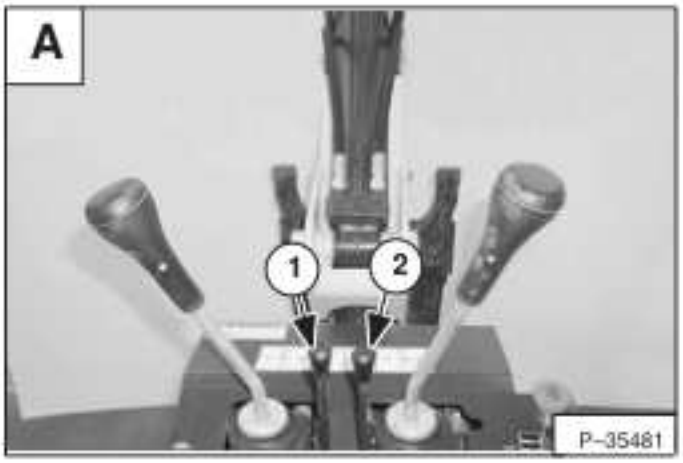


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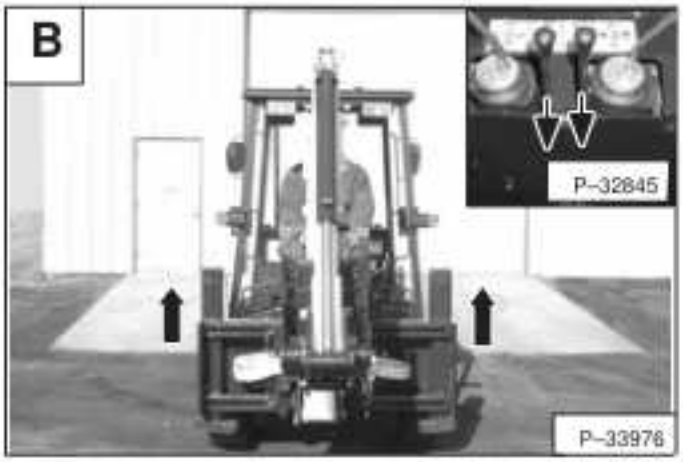
### Stabilizer Control Lever (Vertical)

The left lever (Item 1) **[A]** controls the left stabilizer.

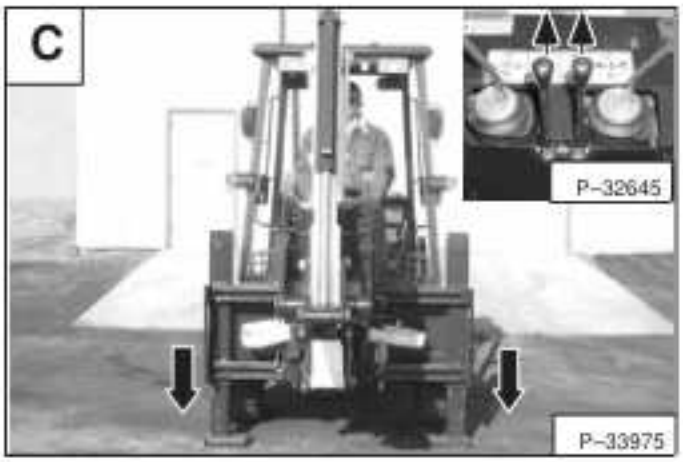
The right lever (Item 2) **[A]** controls the right stabilizer.




Pull the levers (Item 1 & 2) **[A]** back to raise both stabilizers **[B]**.




Push the levers (Item 1 & 2) **[A]** forward to lower both stabilizers **[C]**.






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## ATTACHMENTS AND BUCKETS

**NOTE: Warranty is void if non–approved attachments are used on the loader backhoe.**

**⚠ WARNING**

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

**W–2430–0502**

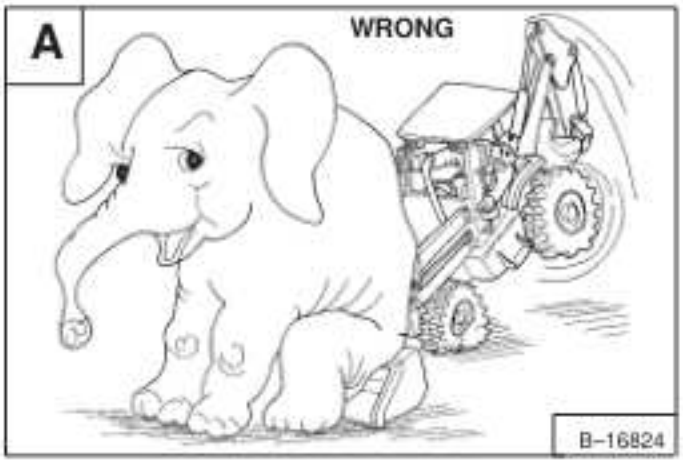
The dealer can identify, for each model loader backhoe the attachments and buckets approved by Ingersoll–Rand. The buckets and attachments are approved for Rated Operating Capacity and for secure fastening to the Bob–Tach.

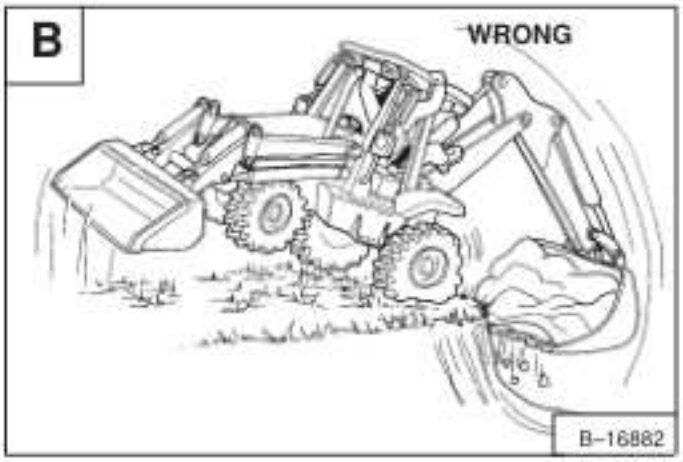
The Rated Operating Capacity is determined by using a standard dirt bucket, and material of normal density, such as dirt or dry gravel. If longer buckets are used, the load center moves forward and reduces the Rated Operating Capacity. If very dense material is loaded, the volume must be reduced to prevent overloading.

Exceeding the Rated Operating Capacity **[A]** can cause the following problems:

- Steering the loader may be difficult.
- Tires will wear faster
- There will be a loss of stability.
- The life of the Ingersoll–Rand loader backhoe 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 backhoe. Partial loads make steering more difficult.




**⚠ WARNING**

**AVOID INJURY OR DEATH**

**Do not exceed rated operating capacity. Excessive load can cause tipping or loss of control.**

**W–2053–0887**



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## ENGINE LUBRICATION SYSTEM (Cont'd)

### Replacing The Oil And Filter

See the *SERVICE SCHEDULE* Page 49 for the service interval for replacing the engine oil and filter.

Run the engine until it is at operating temperature. Stop the engine. Engage the parking brake.

Remove the drain plug (Item 1) **[A]**.

Drain the oil into a container and recycle or dispose of used oil in an environmentally safe manner.

Reinstall the drain plug.

Remove the engine cover from the right side.

Remove the oil filter (Item 1) **[B]**.

Clean the filter housing surface.

Use genuine Ingersoll–Rand filter only.

Put oil on the new filter gasket. Install the filter and hand tighten.

Remove the fill cap (Item 1) **[C]**. Put 7.5 qts. (7.1 L) of oil in the engine.

Start the engine and let it run for several minutes.

Stop the engine and check for leaks at the oil filter.

Remove the dipstick (Item 2) **[C]** and check the oil level. Add oil as needed if it is not at the top mark on the dipstick (Item 1) **[D]**.

Install the dipstick and close the engine cover.

**⚠ WARNING**

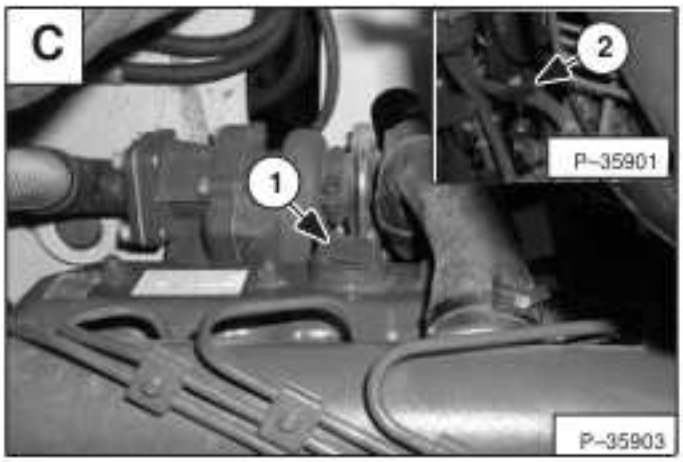
**Always clean up spilled fuel or oil. Keep heat, flames, sparks or lighted tobacco away from fuel and oil. Failure to use care around combustibles can cause explosion or fire which can result in injury or death.**

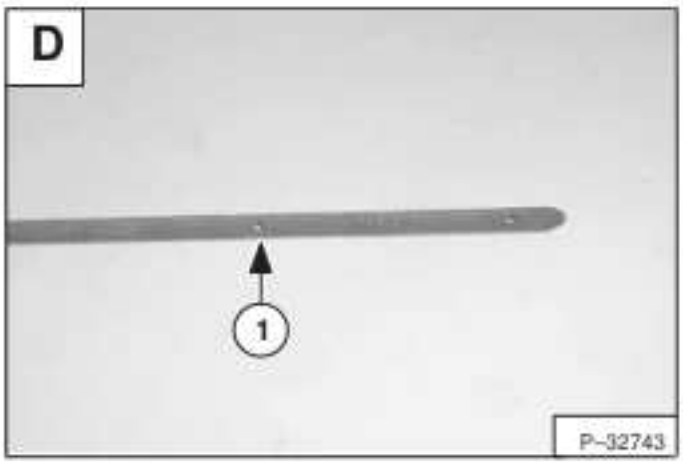
W–2103–1285












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## BEFORE OPERATING THE INGERSOLL–RAND LOADER BACKHOE

**Safety Alert Symbol**

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

**WARNING**

**Operator must have instructions before running the machine. Untrained operators can cause injury or death.**

W–2001–1285

The Ingersoll–Rand loader backhoe and attachment must be in good operating condition before use.

Check all of the items on the Ingersoll–Rand Service Schedule Decal under the 8–10 hour column or as shown in this Manual.

**IMPORTANT**

**This notice identifies procedures which must be followed to avoid damage to the machine.**

I–2019–0284

## SAFE OPERATION NEEDS A QUALIFIED OPERATOR *

**A QUALIFIED OPERATOR MUST DO THE FOLLOWING:**

- **UNDERSTAND THE WRITTEN INSTRUCTIONS, RULES AND REGULATIONS**
  - The written instructions from Ingersoll–Rand Company include the Delivery Report, Operation & Maintenance Manual, Operator's Handbook, Safety Manual and machine signs (decals).
  - Check the rules and regulations at your location. The rules may include an employer's work safety requirements. Regulations may apply to local driving requirements or use of a Slow Moving Vehicle (SMV) emblem. Regulations may identify a hazard such as a utility line.

**WARNING**

**Warnings on the machine and in the manuals are for your safety. Failure to obey warnings can cause injury or death.**

W–2044–1285

- **HAVE TRAINING WITH ACTUAL OPERATION**
  - Operator training must consist of a demonstration and verbal instruction. This training is given by your Ingersoll–Rand dealer before the product is delivered.
  - The new operator must start in an area without bystanders and use all the controls until he can operate the machine and attachment safely under all conditions of the work area. Always fasten seat belt before operating.
- **KNOW THE WORK CONDITIONS**
  - Know the weight of the materials being handled. Avoid exceeding the Rated Operating Capacity of the machine. Material which is very dense will be heavier than the same volume of less dense material. Reduce the size of load if handling dense material.
  - The operator must know any prohibited uses or work areas, for example, he needs to know about excessive slopes.
  - Know the location of any underground lines. Call local utilities or the TOLL FREE phone number found in the *SAFETY INSTRUCTIONS* Section of this manual.
  - Wear tight fitting clothing. Always wear safety glasses when doing maintenance or service. Safety glasses, hearing protection or special applications kit are required for some work. See your dealer about Ingersoll–Rand Safety equipment.

* For an operator to be qualified, he must not use drugs or alcoholic drinks which impair his alertness or coordination while working. An operator who is taking prescription drugs must get medical advice to determine if he can safely operate a machine.



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