URRAGH training

MNCO1027A

CONDUCT
EXCAVATOR/HYDRAULIC SHOVEL OPERATIONS

HITACHI EX2500 & EX3600 EXCAVATOR



EX2500



EX3600

LEARNING NOTES

Design & Development
by
www.Worklearn.com
Phone: 61 7 3869 0020

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Hitachi EX2500/EX3600 Excavator

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2.3 & **2.4** are reversed in the Learning Notes & Assessment

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OPEN CUT PRODUCTION COMPETENCIES

Hitachi EX2500/EX3600 Excavator

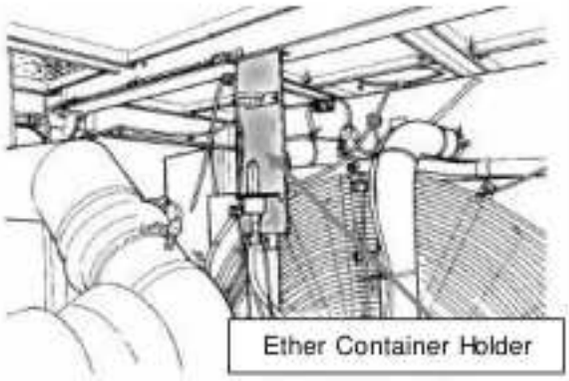
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2.2.8 Starting In Cold Weather

EX2500

- Install an ether container on holder located in the engine room
- Move the engine speed control lever to the LOW position.
- Turn the ignition switch to START; AND
- Crank the engine


Ether Container Holder

WARNING	• Starting fluid (ether) is highly flammable. • The container may explode if not handled correctly. • Keep the container away from heat, sparks, and open flame. • Contents of the starting fluid container are pressurized. Do not puncture or incinerate the container. • Remove container from the excavator if the engine does not need starting fluid.

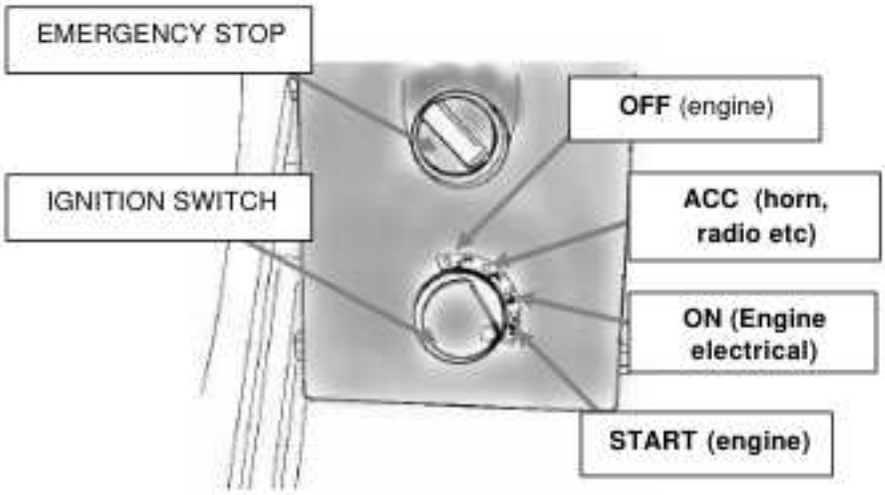
The Pre-lube indicator will glow and the starter will rotate to start the engine, approximately 3 seconds after the pre-lube indicator light goes out. A shot of ether will be injected into the engine.

- Release the ignition key after the engine starts *(It will return to the ON position)*
- Remove the ether container after the engine has started

NOTE	Ether is injected into the engine automatically.

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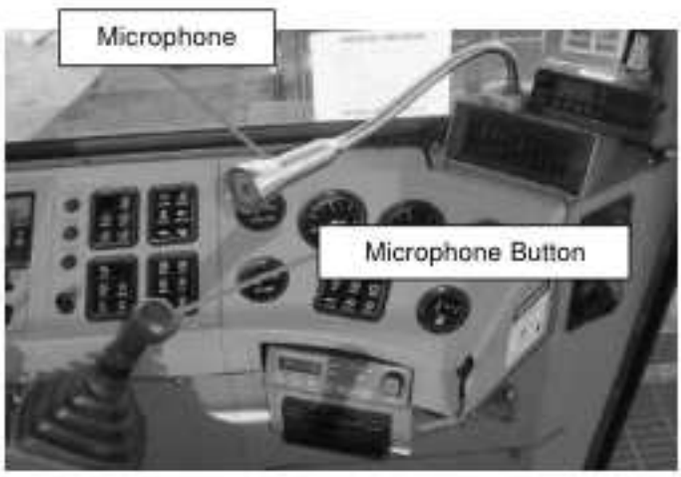
- **Engine Ignition (Starter) Switch** – used to start the engine and activate the electrical circuits. There are four (4) positions:
  - START – turn the key(s) to this position to start the engine(s). The key(s) will return to the ON position when released.
  - ACC - supplies power to the radio, horn and two-way
  - ON - after starting, the engine(s) will continue to run with the key(s) in this position
  - OFF - turns the engine(s) off and isolates the electrical systems



- **Two Way Radio –** The microphone on the two way radio is controlled by the button on top of the left hand bucket control lever.

  To talk on the radio:

  DEPRESS the button on top of the control and HOLD down until you have finished speaking.



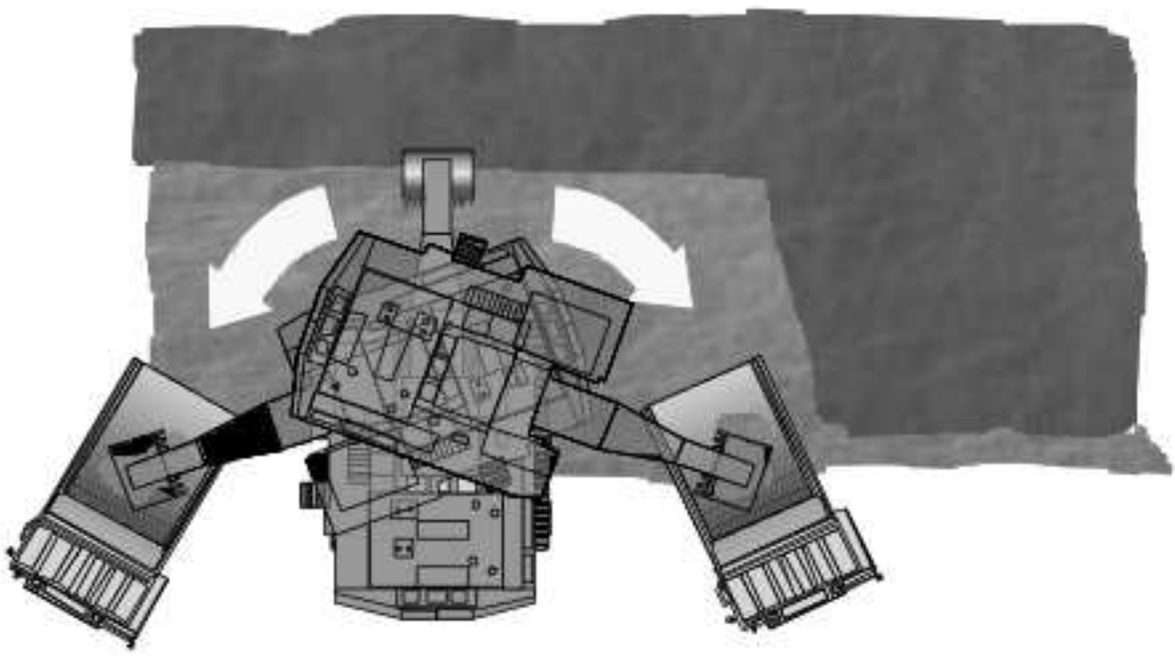
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2.3.8 Loading Trucks Off the Same Level

The excavator is positioned at floor level. Tracks can be facing either directly into the heap or at an angle across the face depending on the width of the bench.

Trucks are positioned at an angle to the to the bench face *(if conditions allow).*

The excavator swings from the dig zone to left and right carrying the bucket through the gate before placing the material in the truck body.



WARNING	Although truck loading can be carried out from either side, to prevent the excavator counter weight striking a truck, only **one truck** at a time should be positioned

The basic operation for loading trucks off the same level is as follows:

- The excavator raises the load and positions it to the left or right of the digger as close to the face as possible. Excavator operator must ensure that the truck is not in the path of the excavators counter weight when slewing
- The truck operator backs under the bucket
- The excavator sounds the horn when the truck is in the correct position or has reversed back sufficiently
- The excavator tips the load from the bucket.

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HITACHI EX2500/EX3600 EXCAVATOR

1027.1
PLAN & PREPARE FOR OPERATIONS

- **CT 1.1** Obtain, Interpret & Clarify Work Requirements
- **CT 1.2** Access, Interpret & Apply Geological & Survey Data
- **CT 1.3** Access & Apply Safety Information
- **CT 1.4** Co-ordinate Preparation of Work Area
- Formative Assessment

1027.2
OPERATE EXCAVATOR

- **CT 2.1** Resolve Co-ordination Requirements with Others
- **EX25/36 2.2** Carry out Pre-start, Start Up, Park-up & Shutdown Procedures
- **EX25/36 2.3** Select Loading Method
- **EX25/36 2.4** Conduct, Control & Monitor Dig Procedures
- **EX25/36 2.5** Act on or Report Monitoring Systems & Alarms
- **EX25/36 2.6** Recognise & Respond to Hazardous and Emergency Situations
- **CT 2.7** Complete Work to Agreed Planned Outcomes
- Formative Assessment

2.3 & **2.4** are reversed in the Learning Notes & Assessment

1027.3
RELOCATE EXCAVATOR

- **CT 3.1** Receive & Confirm Route & Location Plan
- **EX25/36 3.2** Complete and/or Follow Ground Preparation
- **CT 3.3** Resolve Co-ordination Issues, Support Equipment & Personnel
- **EX25/36 3.4** Relocate Excavator
- Formative Assessment

1027.4
OPERATOR MAINTENANCE

- **EX25/36 4.1** Carry out Inspections & Fault Finding
- **EX25/36 4.2** Carry out Routine Operational Servicing, Maintenance, Lubrication & Housekeeping
- **EX25/36 4.3** Carry out Minor Maintenance
- **EX25/36 4.4** Provide Support for Major Maintenance
- **CT 4.5** Process Maintenance Records
- Formative Assessment

WHITE sections coded **CT** relates to *Mining Department Area Specific Induction*

GREEN sections coded :
EX25/36 relates to the Hitachi EX2500 and EX3600

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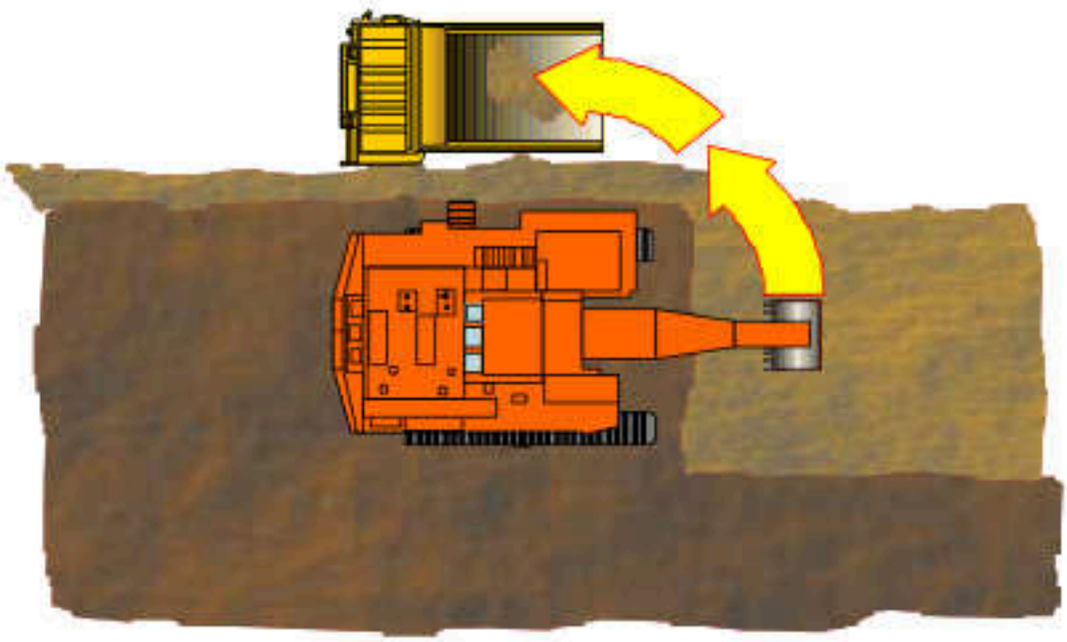
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2.3.7 Drive By Loading

The excavator is positioned parallel to the face with the right track lined up along the cut line.

Trucks are positioned parallel to the bench face, preferably with the operator's cabin on the excavator side. *It is the responsibility of the* ***excavator operator*** to ensure that the truck is positioned so that the counter weight clears the truck when the excavator is swinging.

The excavator swings from the dig zone to the left carrying the bucket through the trucks gate or over the side before placing the material in the truck body.



The basic operation for through drive by loading is as follows:

- The truck operator drives into position along the bench with the truck about 2.5 metres from the crest of the face
- The excavator sounds the horn when the truck is in the correct position
- The excavator raises the load and swings it over the trucks side
- The excavator tips the load from the bucket.

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