NEW HOLLAND

EXCAVATOR

E215

OPERATOR'S MANUAL

YN91ZU0004F1 NA

Issued 01-2006

NEW HOLLAND

www.newhollandconstruction.com

MidWestTech | New Holland E215 Excavator Operator's Manual | Publication YN91ZU0004... Order the manual at mid-west-tech.com >

TABLE OF CONTENTS

CHAPTER 1
GENERAL INFORMATION
To the Owner 1-1
Right, Left, Front, and Rear of the Machine 1-2
Machine Components 1-3
Identification Numbers 1-4

CHAPTER 2
SAFETY, DECALS, AND HAND SIGNALS
Table of Contents 2-1
Safety Rules 2-3
Operator Precautions 2-4
Decals 2-10
Hand Signals 2-27

CHAPTER 3
INSTRUMENTS AND CONTROLS
Table of Contents 3-1
Operator Cab and Operator Seat 3-3
Machine Access Compartments and Doors 3-9
Operator's Compartment Controls and Accessories 3-11
Operating Levers and Controls 3-37

CHAPTER 4
OPERATING INSTRUCTIONS
Table of Contents 4-1
Before Operating the Machine 4-3
Operating the Machine 4-3
Starting & Stopping Machine Engine with Temperature above 0°C (32°F) 4-4
Starting & Stopping Machine Engine with Temperature below 0°C (32°F) 4-5
Starting Machine Engine with Booster Cable 4-6
Machine Warm Up 4-8
Control Decal 4-10
Basic Operation of Hydraulic Controls 4-11
Using Auto Acceleration 4-18
Practices to Improve Efficiency 4-19
Machine Operation in Adverse Weather Conditions 4-21
Recommendation for Longer Undercarriage Life 4-22
Bucket Selection Guide 4-22
Use of Optional Attachment 4-23
Transportation 4-35
Machine Storage 4-42

CHAPTER 5
LUBRICATION, FILTERS, AND FLUIDS
Table of Contents 5-1
Fluids and Filters 5-3
Lubricant Specifications 5-5
Use of Bio-Degradable Oils 5-6

CHAPTER 6
MAINTENANCE AND ADJUSTMENTS
Table of Contents 6-1
General Information 6-5
General Safety 6-5

MidWestTech | New Holland E215 Excavator Operator's Manual | Publication YN91ZU0004... Order the manual at mid-west-tech.com >

CHAPTER 2

SAFETY, DECALS, AND HAND SIGNALS

TABLE OF CONTENTS

SAFETY RULES . . . 2-3
Personal Safety . . . 2-3
Safety Area . . . 2-3
Utility Safety . . . 2-4

OPERATOR PRECAUTIONS . . . 2-4
Personnel . . . 2-4
General . . . 2-4
Mounting and Dismounting Precautions . . . 2-5
Starting and Stopping Precautions . . . 2-5
Operating Precautions . . . 2-5
Maintenance Precautions . . . 2-7
Fuel Handling Precautions . . . 2-7
Burn Prevention . . . 2-8
Hazardous Chemical Precautions . . . 2-8
Transporting Precautions . . . 2-8
Roll-Over Protective Structure (If equipped) . . . 2-8
Fire Extinguisher . . . 2-8
Seat Belt Precautions . . . 2-9
How to Handle Life Hammer . . . 2-9
Specific Precautions to this Machine . . . 2-9

DECALS . . . 2-10
Counterweight Lifting Eyes - Danger . . . 2-10
Keep Surface Clean - Warning . . . 2-10
Lifting Fuel Tank - Warning . . . 2-11
Pressurized Hot Oil - Warning . . . 2-11
Hot Parts - Caution . . . 2-12
Do Not Step On - Warning . . . 2-12
Stop Engine - Warning . . . 2-13
Hot Coolant - Warning . . . 2-13
Booster Cable - Warning . . . 2-13
Booster Cable - Warning . . . 2-14
California Proposition 65 - Warning . . . 2-14
Handling Pilot Hoses - Caution . . . 2-14
Rotating Parts - Caution . . . 2-15
Swing - Danger . . . 2-15
Use Diesel Fuel . . . 2-15
Hydraulic Oil Check Position . . . 2-16
Antifreeze Solution . . . 2-16
Hydraulic Oil Used . . . 2-16
Grease Swing Bearing . . . 2-17
Serial Number Plate . . . 2-17
Machines Equipped With Pattern Control Change Valve (Optional) . . . 2-17
Machines Equipped With Pattern Control Change Valve (Optional) - Danger . . . 2-18
Read Operator Manual - Warning . . . 2-18
Two Speed Travel - Warning . . . 2-18
Adjusting Track Tension - Warning . . . 2-19
Electrical Power Lines - Danger . . . 2-19
Stopping Engine After Operation - Notice . . . 2-19
Bucket Cab Interference - Caution . . . 2-20
Heavy Lift Switch - Warning . . . 2-20
Do Not Install Any Object On The Handrail - Warning . . . 2-20
Hydraulic Warm Up - Caution . . . 2-21

MidWestTech | New Holland E215 Excavator Operator's Manual | Publication YN91ZU0004... Order the manual at mid-west-tech.com >

CHAPTER 3

INSTRUMENTS AND CONTROLS

TABLE OF CONTENTS

OPERATOR CAB AND OPERATOR SEAT . . . 3-3
- Locking/Unlocking Cab Door . . . 3-3
- Cab Door Latch . . . 3-3
- Opening and Closing Windshield . . . 3-4
- Removing and Storing Lower Front Window . . . 3-4
- Opening and Closing Door Glass . . . 3-5
- Opening and Closing Sunroof . . . 3-5
- Cab Dome Light . . . 3-5
- document pouch . . . 3-6
- Operator Seat Adjustments . . . 3-6
  - Air Suspension Height Adjustment . . . 3-6
  - Seat Front and Rear Height adjustment . . . 3-6
  - Seat Back Reclining Adjustment . . . 3-6
  - Seat Forward & Backward Adjustment . . . 3-7
  - Seat Stand Forward & Backward Adjustment . . . 3-7
  - Arm Rest Adjustment . . . 3-7
  - Seat Head Rest Adjustment . . . 3-7
  - Seat Heater Switch (Optional) . . . 3-8
  - Adjustment of Seat Stand Height . . . 3-8
- Seat Belt . . . 3-8

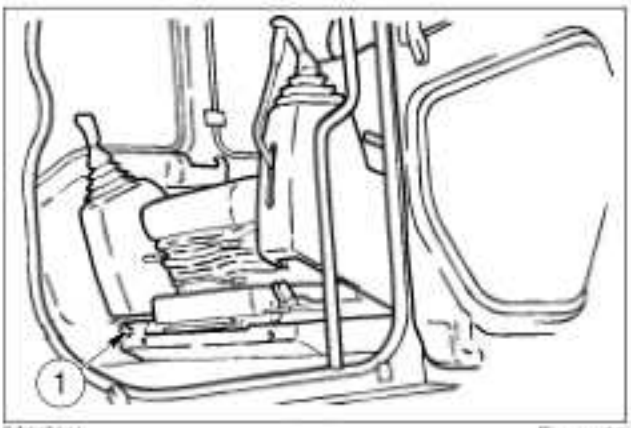
MACHINE ACCESS COMPARTMENTS AND DOORS . . . 3-9
- Engine Coolant Tank & Engine Air Cleaner Access Doors . . . 3-9
- Main Pump Access Door . . . 3-9
- Battery Box Access Cover . . . 3-9
- Fuel Cap . . . 3-10
- Engine Cover . . . 3-10

OPERATOR'S COMPARTMENT CONTROLS AND ACCESSORIES . . . 3-11
- Operator Cab Nomenclature . . . 3-12
- Components & Controls Nomenclature . . . 3-12
- Right Hand Operator Console and Monitor . . . 3-12
  - Key Switch . . . 3-12
  - Throttle Potentiometer . . . 3-12
  - Monitor . . . 3-13
  - Work Mode Switch . . . 3-13
  - Buzzer Stop Switch . . . 3-14
  - Screen Change Switch . . . 3-15
  - windshield Wiper & Washer Switch . . . 3-15
  - Auto Accel Switch . . . 3-16
  - Working Light Selector Switch . . . 3-16
  - Travel Speed Select Switch . . . 3-16
  - L.C.D. Display . . . 3-17
  - A. Normal Displays . . . 3-17
  - B. Warning Displays . . . 3-17
  - Preventive Maintenance Program . . . 3-22
  - Monitor Time Adjustment . . . 3-23
  - LCD Contrast Adjustment . . . 3-24
  - Changing Warning Display Language . . . 3-24
  - Draining Hydraulic System Pressure . . . 3-25
  - Power Boost Switch . . . 3-26
  - 24 Volt Cigarette Lighter . . . 3-26
  - Location for Optional Switches . . . 3-26
  - Cup Holder and Ashtray . . . 3-26

MidWestTech | New Holland E215 Excavator Operator's Manual | Publication YN91ZU0004... Order the manual at mid-west-tech.com >

OPERATING LEVERS AND CONTROLS

1. Engine Emergency Stop Control



DC04C344 Figure 83

1. ENGINE EMERGENCY STOP CONTROL

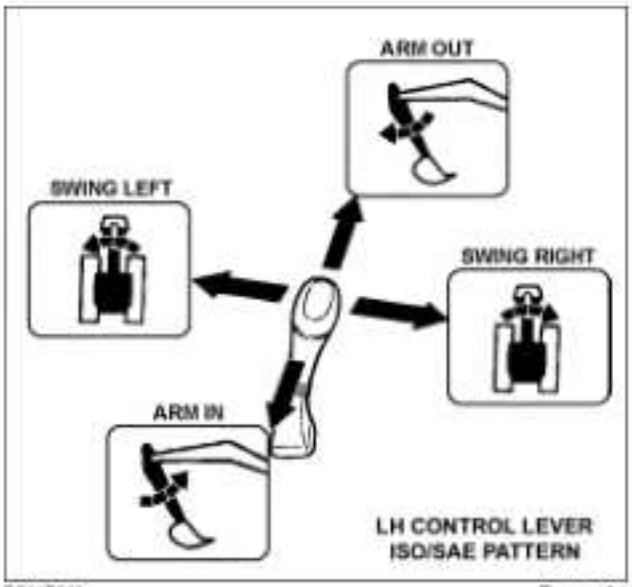
The Engine Emergency Stop Control Cable is located at the lower right hand side of the operator's seat. It is used only in an emergency situation to stop the engine quickly. It has 2 operating positions.

"IN" - Releases the fuel stop lever on the governor to allow normal starting of the engine.

"OUT" - Activates the fuel stop lever on the engine governor to immediately stop the engine.

CAUTION: *Do not suddenly stop the engine when operating at high RPM. Doing so may damage the turbo or engine.*

2. Left Hand Operator Control Lever (ISO Pattern)



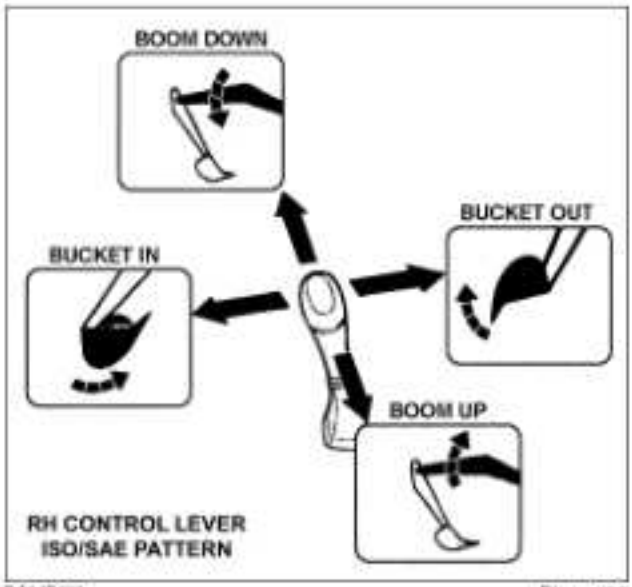
DC04D562 Figure 84

CAUTION: *Hydraulic controls are designed for and set to ISO operating pattern for optimum machine performance and safety. Changing the control pattern will effect the performance of the machine.*

The Left Hand Operator Control Lever is located at the top front of the LH operator console. Its purpose is to allow the operator to control operations of the swing and arm. Operating speed of function is variable from stop to full stroke depending on how far lever is operated. The left hand operator control lever has 4 basic operational functions.

- **"FORWARD"** - Variable speed ARM out.
- **"BACKWARD"** - Variable speed ARM in.
- **"LEFT"** - Variable speed left SWING.
- **"RIGHT"** - Variable speed right SWING.
- **"CENTER"** - Neutral position.

3. Right Hand Operator Control Lever (ISO Pattern)



DC04D563 Figure 85

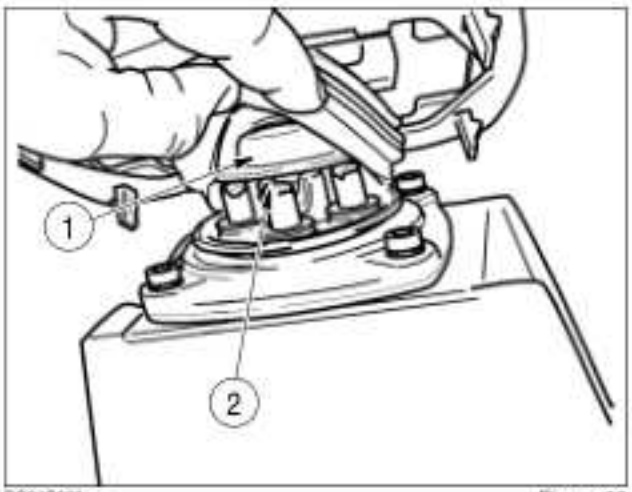
The Right Hand Operator Control Lever is located at the top front of the RH operator console. Its purpose is to allow the operator to control operations of the boom and bucket. Operating speed of function is variable from stop to full stroke depending on how far lever is operated. The right hand operator control has 4 basic operational functions.

- **"FORWARD"** - Variable Speed BOOM down.
- **"BACKWARD"** - Variable speed BOOM up.
- **"LEFT"** - Variable speed BUCKET in (Digging).
- **"RIGHT"** - Variable speed BUCKET out (Dump).
- **"CENTER"** - Neutral position.

MidWestTech | New Holland E215 Excavator Operator's Manual | Publication YN91ZU0004... Order the manual at mid-west-tech.com >

120 HOUR INSPECTION & MAINTENANCE PROCEDURES

CONTROL LEVER JOINT LUBRICATION



DC04C336 Figure 93

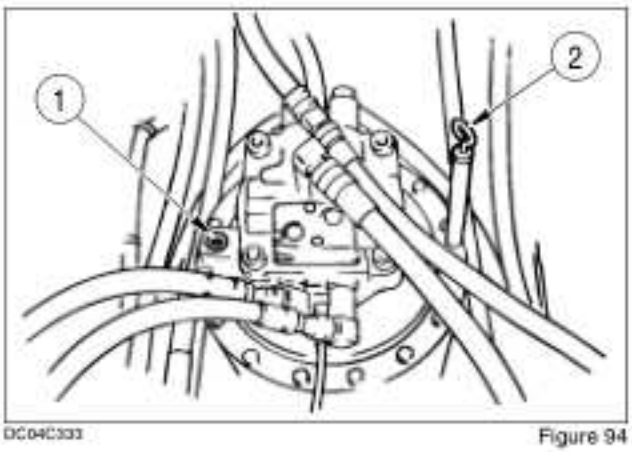
1. UNIVERSAL JOINT
2. TOP OF THE SLIDING AREA

Remove the rubber boots from the control levers and lubricate the universal joint and the top of the sliding area every 120 hours.

SWING MOTOR REDUCTION UNIT OIL

WARNING: *Never perform maintenance on a machine that has just finished working. Allow sufficient time for machine to cool down.*

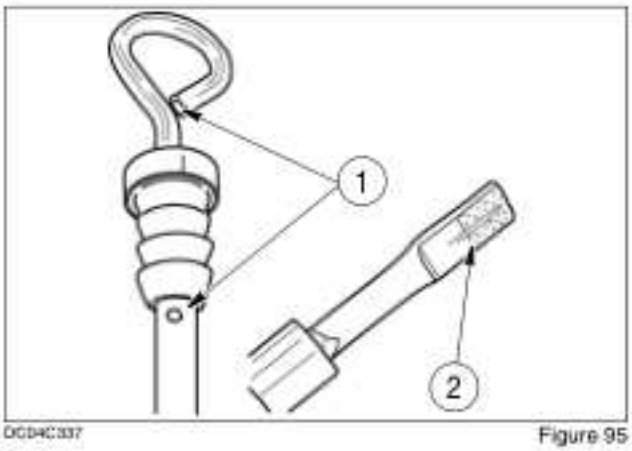
Check the oil level of the swing motor reduction unit on a new machine after the first 50 hours of engine operation. Then, check every 120 hours.



DC04C333 Figure 94

1. FILL PLUG
2. DIPSTICK

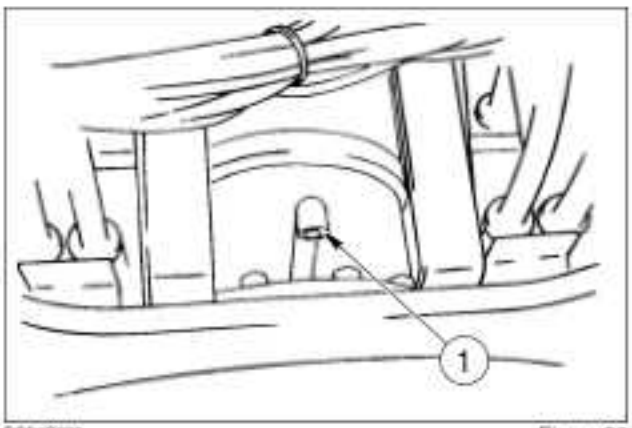
1. Locate the dipstick on the side of the swing motor. Pull dipstick, wipe clean and reinsert all the way in.
2. Pull dipstick and read oil level.
3. If necessary to add oil, remove plug from oil fill port and fill to full level with proper oil. Refer to **LUBRICATION, FILTERS, AND FLUIDS** Section for proper oil specifications.



DC04C337 Figure 95

1. VENT HOLE
2. FULL MARK

4. Check and make sure the vent hole on dipstick is clean.
5. To drain any excess oil from the swing motor reduction unit:



DC04C338 Figure 96

1. DRAIN PORT

CAUTION: *Reduction unit may be under pressure. Remove the plug slowly.*

a. Locate drain port under the center opening of the lower frame.

b. Place an empty container under drain port and remove plug allowing excess oil to drain into container.

NOTE: *Total volume for the E215 LC swing reduction unit is 7.5 L (2.0 Gal).*

c. Replace plug and tighten securely after all oil is drained.

MidWestTech | New Holland E215 Excavator Operator's Manual | Publication YN91ZU0004... Order the manual at mid-west-tech.com >

LIFTING CAPACITIES

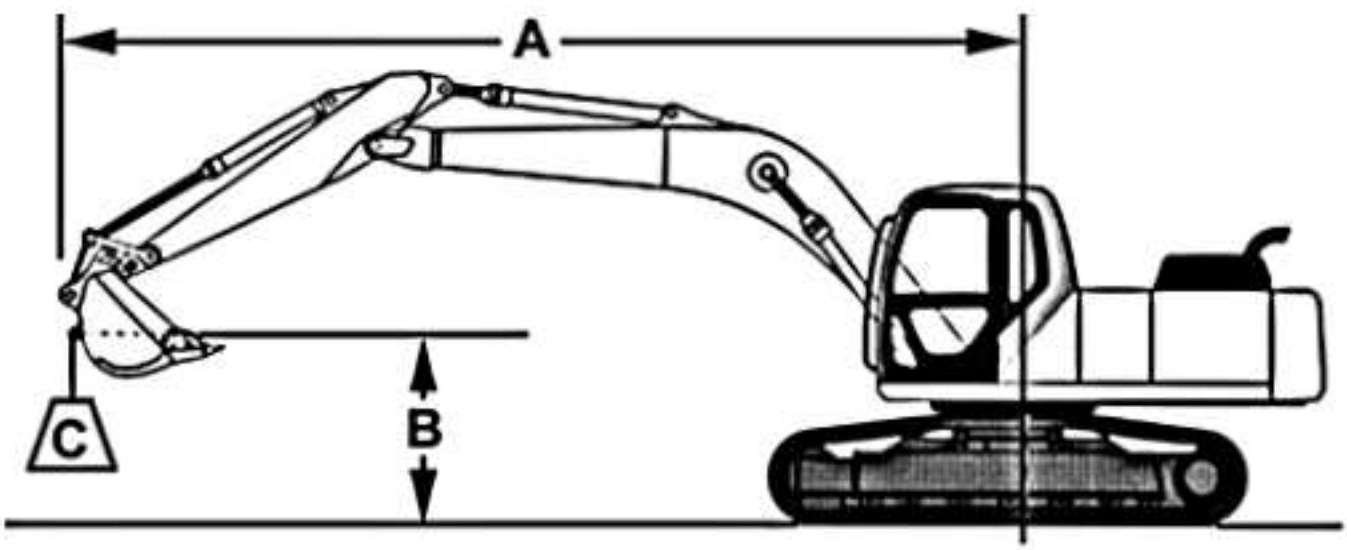
1. Do not attempt to lift any load that exceeds the rated values at their specified load radii and height.
2. Lifting capacities assume a machine standing on a level, firm, and uniform supporting surface. Operator must make allowance for job conditions such as soft or uneven ground, out of level conditions, side loads, sudden stopping of loads, hazardous conditions, inexperienced personnel, weight of various other buckets, lifting slings, attachment, etc.
3. Rating at bucket lift hook.
4. The rated loads are in compliance with SAE Hydraulic Excavator Lift Capacity Standard J1097. They do not exceed 87% of hydraulic lifting capacity or 75% of tipping load. Rated loads marked with asterisk (*) are limited by hydraulic capacity rather than tipping load.
5. Operator should be fully acquainted with the Operator's Manual before operating this machine. Rules for safe operation of equipment should be followed at all times.
6. Capacities apply to the machine as originally manufactured and normally equipped by New Holland Construction.

CAUTION:

THE OPERATOR MUST CONSIDER THE WEIGHT OF ANY DEVICE UTILIZED FOR LIFTING TO PROPERLY CALCULATE THE TOTAL LIFTING CAPACITY OF THE MACHINE. EXAMPLE:

1. *If the excavator uses the same bucket size indicated in the Lifting Chart, and a lifting cable, etc. weighing 100 Kg (220 lbs) is used for lifting, then you have to subtract this additional 100 Kg (220 lbs) from every value indicated in the Lifting Chart accordingly.*
2. *If a bucket is changed for a larger bucket, which weight is 350 Kg (770 lbs) more than the bucket indicated in the Lifting Chart, then you have to subtract this additional weight from every value indicated in the Lifting Chart accordingly.*
3. *If a bucket is changed for a smaller bucket, which weight is 350 Kg (770 lbs) less than the bucket indicated in the Lifting Chart, then you can safely add 350 Kg (770 lbs) to every value indicated in the Lifting Chart accordingly.*

Lifting Capacities Chart Legends:



A - Reach swing center line to bucket hook (Load Radius).

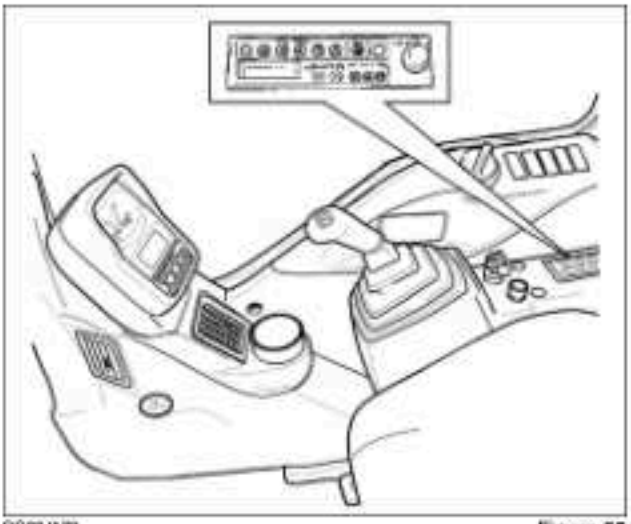
B - Bucket hook height above/below ground.

C - Lifting capacities in pounds (lb) and kilograms (kg).

 Front Lifting.  Side Lifting.

MidWestTech | New Holland E215 Excavator Operator's Manual | Publication YN91ZU0004... Order the manual at mid-west-tech.com >

8. Radio

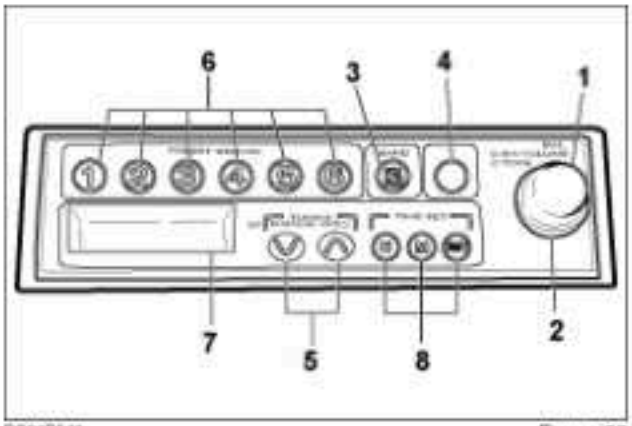


DC03J173 Figure 55

The radio is located on the right side control panel. The LCD Display shows the radio station selected as well as its frequency band.

CONTROL SWITCHES

The following table describes the different functions available to use the radio:



DC040548 Figure 56

SWITCH	FUNCTION AND USAGE
1	Power switch and volume control
2	Tone control
3	FM & AM selector
4	Time set selector
5	Station selector
6	Preset selector buttons
7	LCD display
8	Time adjusting buttons

HOW TO SELECT STATIONS

(Refer to Figure 56).

a. How to select the radio station manually:

Press the Power switch to turn ON the radio and press the station selector buttons up or down to select the desired radio station. This radio function in two main frequency bands: **AM** and **FM**. When the frequency band reaches the upper or lower limit, the radio automatically switches to the opposite limit., that is: from the upper to the lower or vice versa.

b. How to preset the radio stations:

Once the desired radio station is selected manually, press any of the preset station buttons (1 – 6) for more than 1.5 seconds to record it in its respective memory. The reception is temporarily lost during the memorization process. Once the reception is recovered, the station is preset on the desired preset station button. Repeat this procedure to preset a total of 6 different radio stations.

NOTE: *The preset stations are cancelled when the radio is removed for maintenance or the batteries are disconnected.*

HOW TO ADJUST THE CLOCK

(Refer to Figure 56)

a. After the radio is turned ON, press button (4) to activate the time function. Then press button (8): H, M and RST to set the time accordingly. Use **H** to set the hour and **M** to set the minutes.

NOTE: *The radio LCD screen will return to normal functioning after 5 seconds of inactivity on the time control button.*

b. The RST button works as follows: (If trying to adjust time to 10:00 hours):

- If minutes are within 0 and 29 - when pressing RST button, minutes will be taken to "10:00". Then press **M** to set the proper minutes.
- If minutes are within 30 and 59 - when pressing RST button, minutes will be taken to "10:30". Then press **M** to set the proper minutes.

MidWestTech | New Holland E215 Excavator Operator's Manual | Publication YN91ZU0004... Order the manual at mid-west-tech.com >