



19C-1E

**MACHINE OVERVIEW &
INSTALLATION GUIDE**





Machine Overview

- Based upon the diesel I9C
 - Same dig envelope
 - Same performance
 - Same options (majority)
- First traditional JCB all electric product
 - Battery powered
 - Zero emissions at point of use
 - Low noise
 - No trailing cables
- New applications
 - Indoor
 - Underground / tunnelling
 - Urban areas / Low Emission Zones
 - Noise sensitive environments





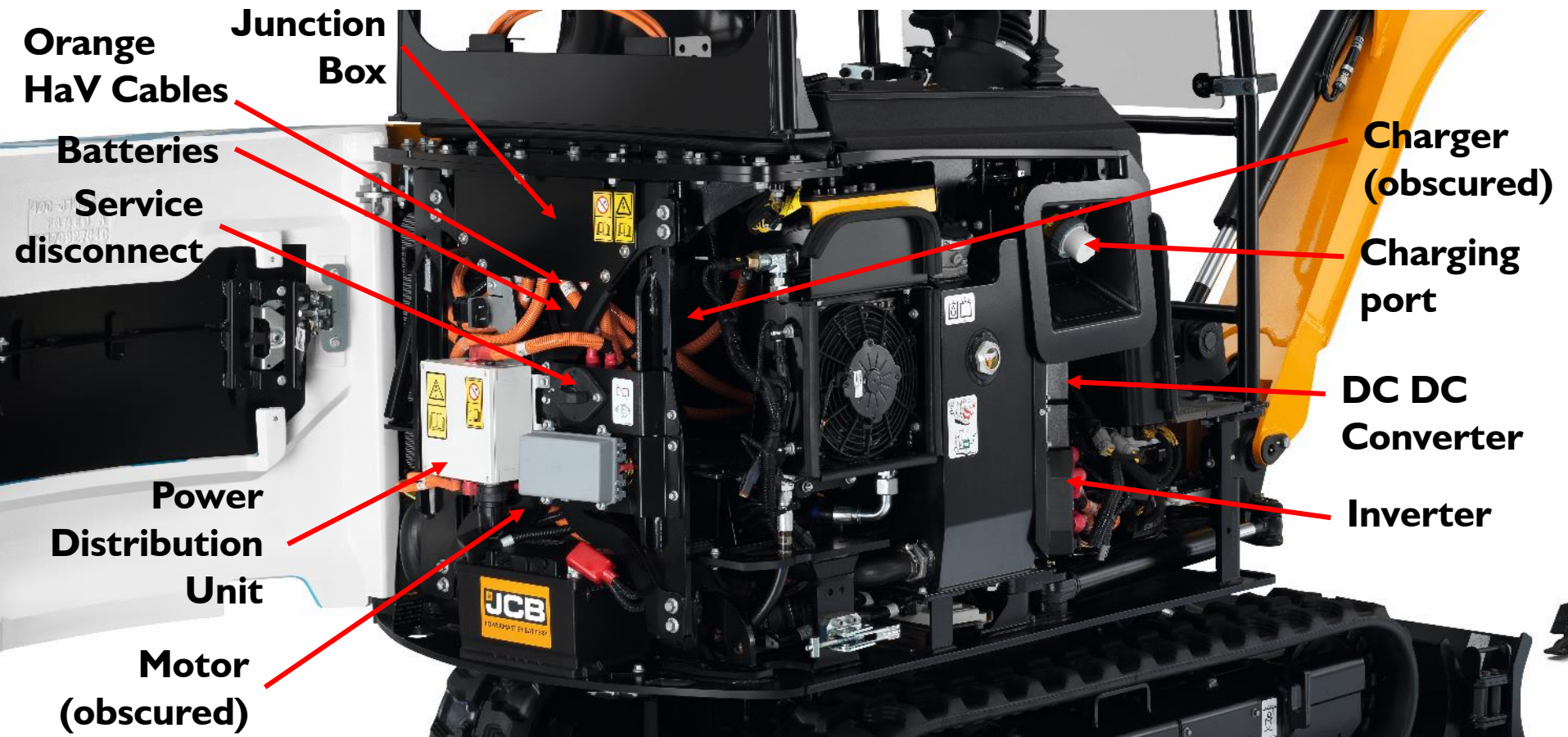
Technical Specification

- Proven, industry standard components
 - Fork Lift Truck industry
 - Powered Access industry
- Operating Weight (including 75kg operator)
 - 3 pack: 1862 kg
 - 4 pack: 1902 kg
- Battery
 - 48V Manganese laminated Lithium-ion battery
 - 14.8 kWh / 19.8 kWh battery options
- Motor
 - AC Permanent Magnet motor
 - 7kW continuous, 20kW peak power
- Thermal Limitations
 - Operation: -10°C to +46°C
 - Charging: -10°C to +40°C
- On-Board Charger
 - Connect direct to AC mains power supply
 - 12hrs charge time @ 110V
 - 8hrs charge time @ 230V
- Fast Charge (Option)
 - Off-board charging unit, powered from a 400-480V, 3phase power supply
 - <2hrs charge time
- Operating Modes:
 - L @ 1200rpm
 - G @ 1600rpm
 - H @ 1800rpm
 - Auto Kick Up @ 2300rpm, 2 speed tracking only
- Noise*
 - At the operator station: 68dB (10dB improvement)
 - Emissions from the machine: 87dB (6dB improvement)
 - *Subject to final confirmation



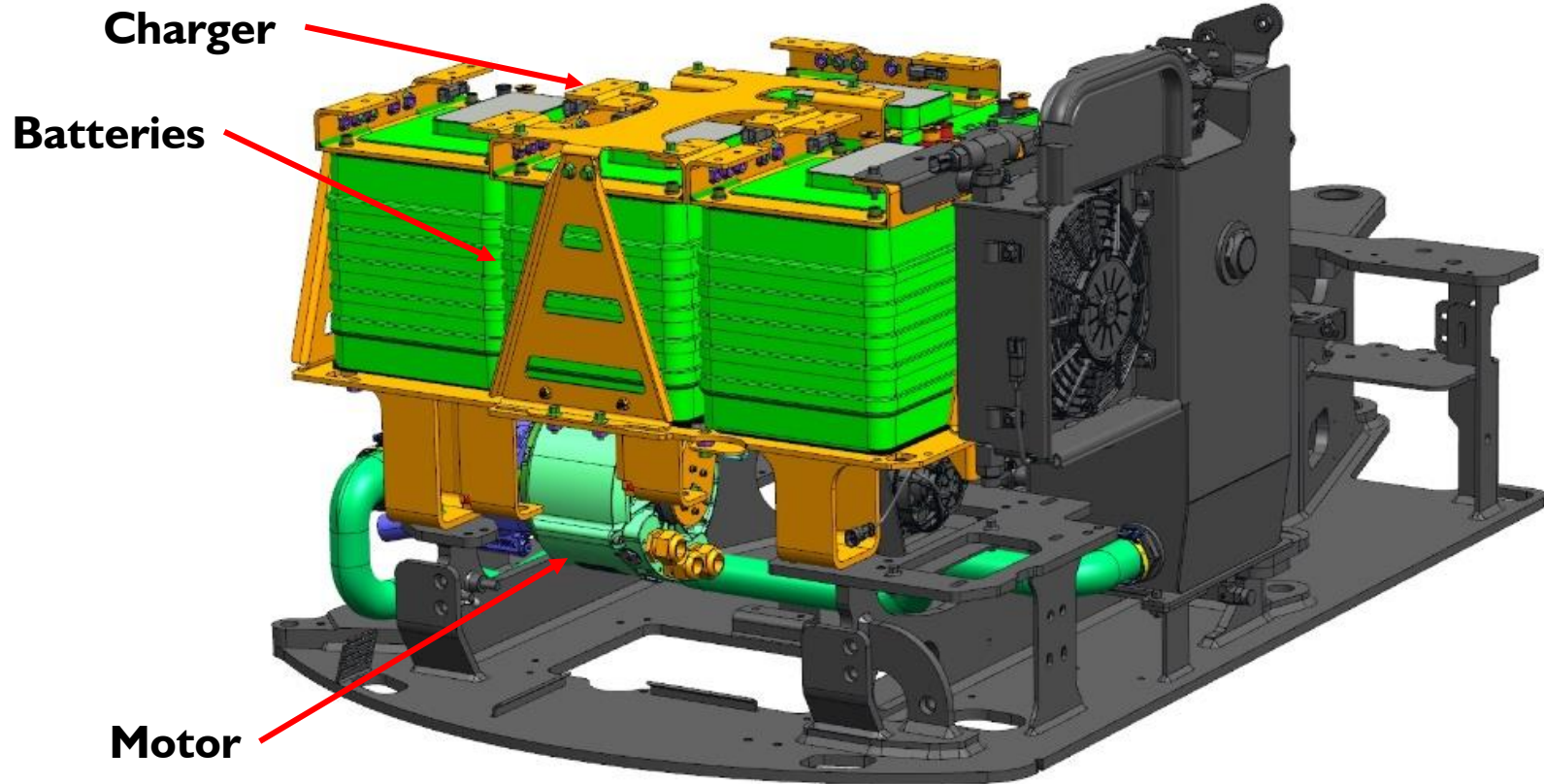


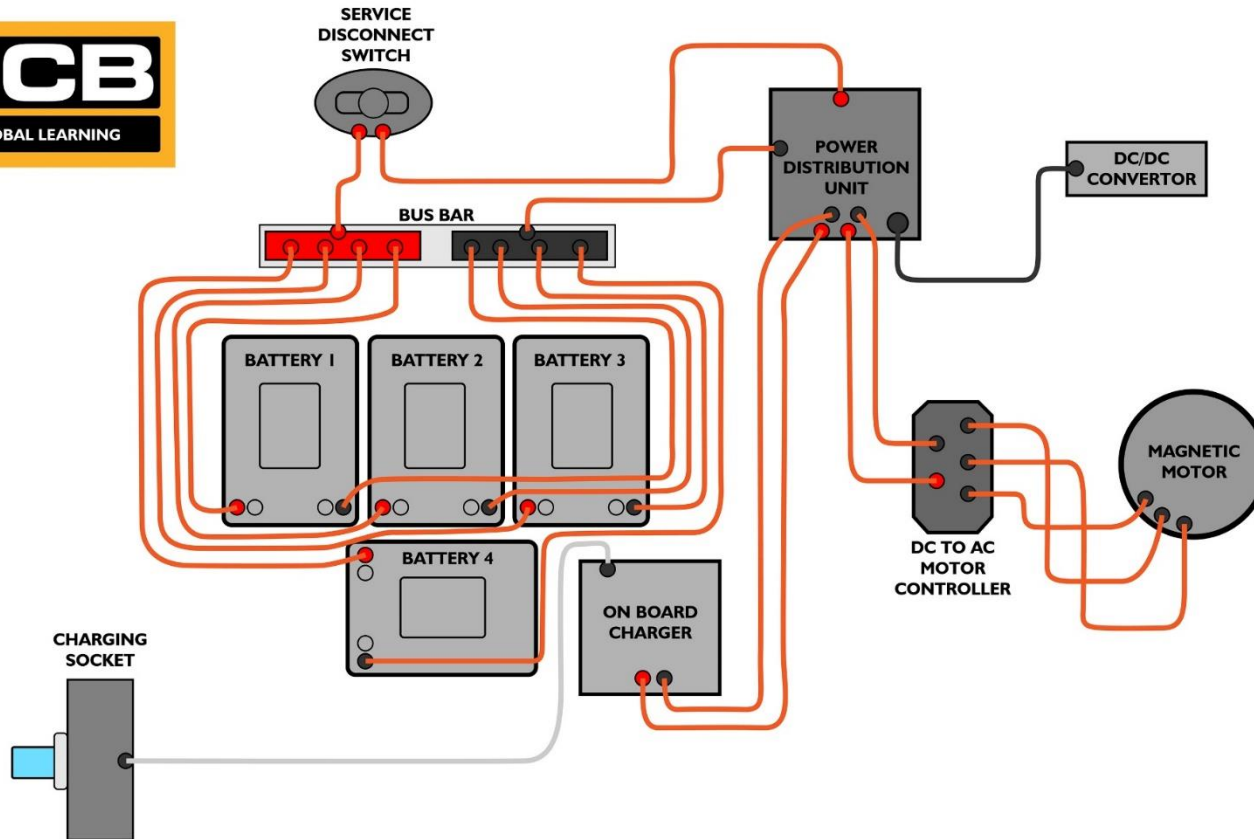
Electrical Powertrain Overview





Electrical Powertrain Overview







Working On The Machine

- Anyone working on machine **MUST** have completed Electrical Awareness Training
 - Available via JCB Training Portal
 - Allows general maintenance / hydraulics
 - Non Hazardous Voltage (HaV) components only
- Working on HaV components; Service personnel **MUST** be specifically trained
 - Anything under the bodywork with an **ORANGE** HaV cable connected to it
- No more dangerous than any other machine if correct processes are followed
- Only daily check specific to I9C-IE is a visual inspection of charging cable and the charging port

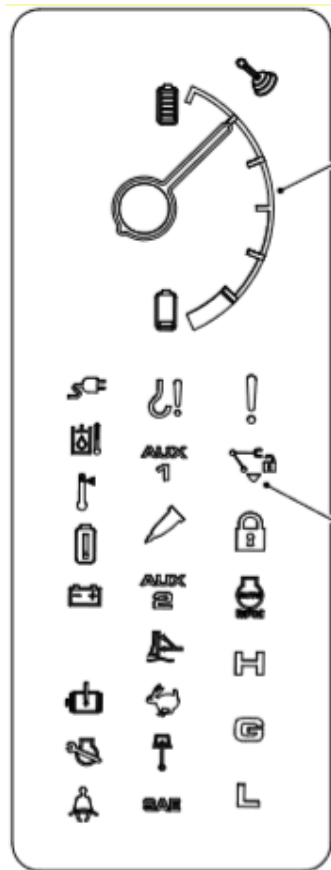


- Generally the same interface as the diesel I9C



- Electric differences:
 - Instrument cluster
 - Rotary throttle control
 - Motor run light (operator and external)
 - Start via the key





Battery State of Charge (SOC) indicator gauge

Warning and indicator lamps



Charger connected



Hydraulic oil-over temperature



System over temperature



Li-ion battery system fault



12V battery charging



Motor fault



Service due



Seat belt



Dozer float



High speed travel



Swing active



SAE active



Master warning



Immobiliser active



Hydraulics active



Quick hitch unlock



Lift overload warning



Aux 1 - double acting



Aux 1 - single acting



Aux 2 - low flow



Auto idle active



'H' mode active



'G' mode active

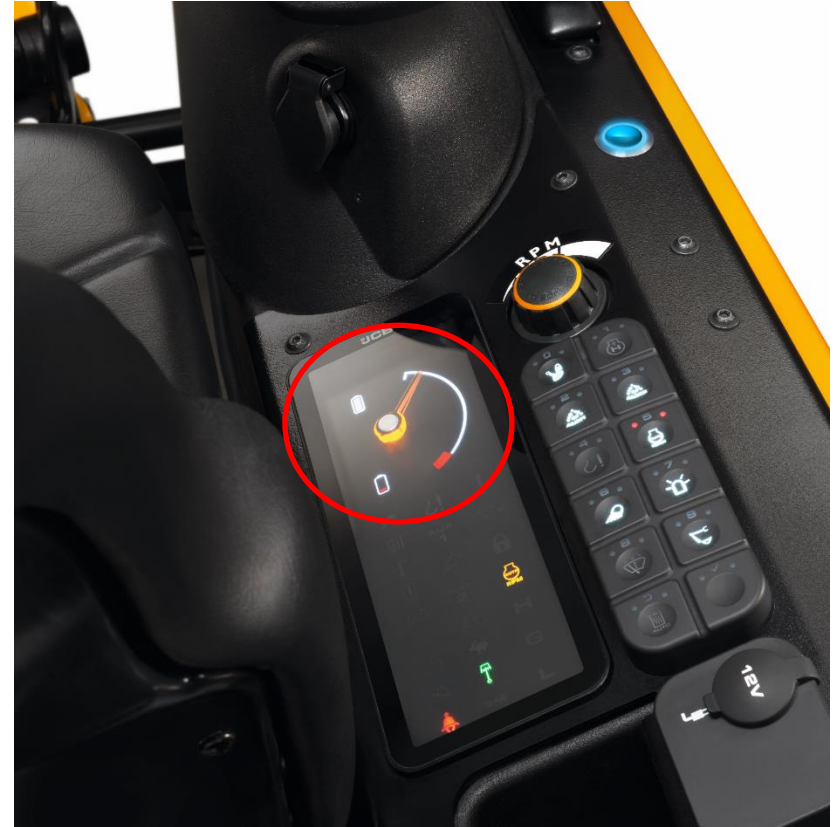


'L' mode active



Low Battery Warnings

- Stop the operator running the battery flat
- 10% SOC
 - Buzzer sounds once
 - Battery warning lamp illuminated
 - Power limitation stage I
 - 2 speed tracking disabled
 - Aux flow restricted to 50%
 - Operation mode restricted to L Mode
 - Charge soon
- 5% SOC
 - Buzzer sounds repeatedly
 - Battery warning lamp illuminated
 - Power limitation stage 2
 - Operation mode restricted to idle
 - Charge immediately – machine will cut out imminently











Charging The Machine

- Charging cable is stored behind the seat
- Plug into machine and power source
 - Ignition key can be removed for charging
- Turn power source on, begin charging
 - 230V cable and US 110V requires RCD (Residual Current Device) (US – GFCI) button depressing to commence charging
- LED status for charging
 - Flashing green – charging
 - Solid green – charging paused (complete or waiting to charge)
 - Green / red alternate – Check mains power supply
 - Red – fault, contact dealer
- Instrument panel will display Charging lamp and SOC
- Machine will stop charging when complete
- Only use the approved JCB charging cable
 - Use of extension leads is prohibited





Charging Requirements

Charging Type	Voltage	Power Outlet Socket Required To Plug Charging Cable Into				Approximate Charge Time (0-100%)
		Industrial	UK	Europe	US	
On-Board Charging	110V	 IEC60309 Yellow, 110V 16A	N/A	N/A	 Type B, (NEMA 5-15) 120V 15A	12hrs
On-Board Charging	230V	 IEC60309 Blue, 230V 16A	 Type G, 230V 13A	 Type E, F, (Shuko) 230V 16A	N/A	8hrs
Off-Board Fast Charging (Optional)	415-480V 3-Phase	 IEC60309 Red, 415-480V 16A				<2hrs





Q&A