

(SB001)

RAIL OPERATIONS

&

EMERGENCY

RECOVERY

PROCEDURES

RAIL- ABILITY

JCB 714 SUPER BOSS ROAD/RAIL VEHICLE



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CONTROL LAYOUT

RAIL AXLE
CHANGE-OVER

RAIL MASTER
SWITCH

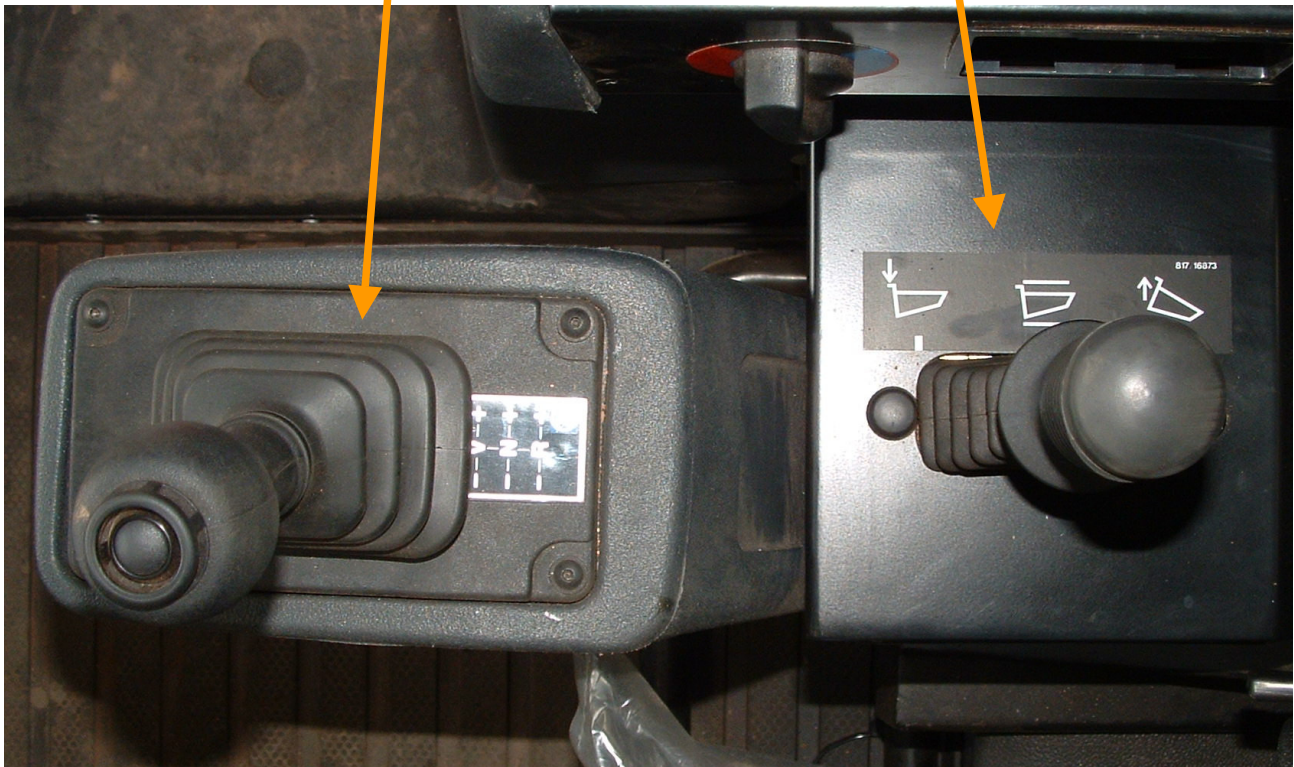
STEERING
LOCK
SWITCH



PARKBRAKE

GEAR
SELECTOR

AUXILIARY
CONTROL
LEVER



JCB 714 OPERATING CONTROLS

RAIL MASTER SWITCH

THIS SWITCH MUST BE OPERATED FOR ALL RAIL-MOUNTED OPERATIONS. WHEN OPERATED THE SWITCH MAKES THE RAIL DRIVE AND RAIL AXLE CONTROL SWITCHES AND STEERING LOCK SYSTEM ACTIVE. IT ALSO ACTIVATES THE RAIL NAVIGATION LIGHTS AND GEAR RESTRICTION SYSTEM.

[WARNING] NEVER OPERATE THE MACHINE ON TRACK WITH OUT THE RAIL MODE SWITCH ACTIVE. FAILURE TO ADHERE TO THIS REQUIREMENT WILL RESULT IN THE RAIL SAFETY SYSTEMS ON THE MACHINE BEING INACTIVE AND CAN RESULT IN EXCESSIVE SPEED BEING REACHED WHEN TRAVELLING ON RAIL AND POTENTIAL DE-RAIL OCCURRING RESULTING IN SERIOUS INJURY OR DEATH AND SEVERE DAMAGE TO THE RAIL INFRASTRUCTURE AND MACHINE.

AUXILIARY CONTROL LEVER

NORMALLY THIS OPERATES THE HYDRAULICS ON THE MODULE ATTACHED TO THE CHASSIS, I.E. OPERATES THE TIPPING RAM ON THE 3-WAY TIPPER MODULE. WHEN THE AXLE CHANGEOVER SWITCH IS OPERATED THIS RAISES AND LOWERS THE SELECTED RAIL GEAR.

AXLE CHANGE-OVER SWITCH

THIS SWITCH CHANGES BETWEEN FORWARD AND REAR RAIL GEAR WHEN RAISING AND LOWERING THE WHEELS. HOLDING THE LEFT SIDE OF THE SWITCH DOWN GIVES POWER TO THE FRONT AXLE RAMS AND HOLDING THE RIGHT SIDE SWITCHES FLOW TO THE REAR AXLE RAMS. WHEN THIS SWITCH IS IN THE DEFAULT CENTRAL POSITION THE AUXILIARY HYDRAULIC CIRCUIT IS ACTIVE

STEERING LOCK SWITCH

ONCE THE STEERING LOCK SWITCH HAS BEEN OPERATED THE LOCK WILL ONLY TAKE EFFECT ONCE THE CHASSIS IS STRAIGHT. THIS MAY REQUIRE THE STEERING TO BE MOVED FROM SIDE TO SIDE TO FIND THE LINEAR POSITION UNTIL THE LOCK ENGAGES.

GEAR SELECTOR

WHEN TRAVELLING ON RAIL THE MACHINE MUST BE IN REVERSE GEAR TO ACHIEVE FORWARD DRIVE AND CONVERSELY WHEN FORWARD IS SELECTED THE MACHINE WILL TRAVEL BACKWARDS.

TO OPERATE THE GEAR SELECTOR THE BUTTON ON THE TOP NEEDS TO BE PRESSED AND HELD IN BEFORE IT WILL SELECT A GEAR. PUSH THE LEVER FORWARD INTO THE 'V' POSITION TO SELECT FORWARD TRAVEL OR PULL BACK INTO THE 'R' POSITION FOR REVERSE TRAVEL.

IN NORMAL USE THE JCB 714 HAS 6 FORWARD GEARS AND 3 REVERSE. IF THE GEAR LEVER IS JUST PUT IN FORWARDS POSITION IT WILL START IN AUTOMATIC. TO CHANGE UP OR DOWN GEARS MANUALLY MOVE THE LEVER TO THE SIDE AS INDICATED ON THE LABEL.

IN RAIL MODE THE VEHICLE IS REDUCED TO 3 FORWARD AND 2 REVERSE GEARS. WHEN THE VEHICLE IS PUT INTO REVERSE IN RAIL MODE IT WILL

START IN 1ST GEAR AND TRAVEL IN THE FORWARD DIRECTION. WHEN MOVED TO THE '+' THE VEHICLE WILL CHANGE TO 2ND GEAR FOLLOWED BY AUTOMATIC IF MOVED AGAIN. THIS IS ONLY AVAILABLE IN REVERSE FOR FORWARD TRAVEL. GEAR SELECTION IS MANUAL IN THE REVERSE DIRECTION IN THE FORWARD GEAR

WITH 3-WAY TIPPER MODULE:

- WHEN BODY IS TIPPED THE MACHINE IS RESTRICTED TO 1 FORWARD AND 1 REVERSE GEAR.
- AUXILIARY CONTROL LEVER OPERATES TIPPING RAM

OPERATIONAL SAFETY PRECAUTIONS

- ALL WORK ON OR NEAR THE RAILWAY INFRASTRUCTURE MUST BE CARRIED OUT STRICTLY IN ACCORDANCE WITH RAILWAY REGULATIONS.
- ATTENTION MUST BE PAID TO RAILWAY GROUP STANDARDS AND ALL SAFETY PRECAUTIONS MUST BE FOLLOWED AT ALL TIMES.
- WHEN WORKING ON ELECTRICALLY OPERATED ROUTES, BE SURE TO OBSERVE OFFICIAL REGULATIONS. ALWAYS OBSERVE MINIMUM CLEARANCE FROM OVERHEAD WIRES.
- ALL STAFF MUST BE FULLY TRAINED AND ASSESSED AS COMPETENT TO USE THIS PIECE OF EQUIPMENT ON RAILWAY INFRASTRUCTURE.

SEE THE NETWORK RAIL VAB ENGINEERING ACCEPTANCE CERTIFICATE FOR ADDITIONAL, SPECIFIC MACHINE LIMITATIONS OF USE.



ON / OFF TRACKING THE JCB 714

GENERAL POINTS

ON/OFF TRACK THE JCB 714 ONLY AT AN APPROVED ACCESS POINT

NOTE – AN APPROVED ACCESS POINT IS ONE OF THE FOLLOWING:

- LEVEL CROSSING
- YARD WHERE SURFACE IS LEVEL WITH THE RAIL TOP
- PROPRIETARY APPROVED TRACK ACCESS SYSTEM WITH RAIL SHIELDS.
- CONSOLIDATED BALLAST TO AT LEAST THE UNDERSIDE OF THE RAIL HEAD WITH RAIL SHIELDS.

THE FOLLOWING HAZARDS SHOULD ALSO BE ADDRESSED:

- CANT – NOT TO EXCEED 150MM
- BALLAST SHOULDER – HIGH / LOW
- DEEP CESS / SOFT CESS
- DRAINAGE ROUTES, TROUGHING ROUTES AND OTHER SERVICES/CABLES
- OHLE, 3RD RAIL MUST BE WHERE GAP EXISTS ON BOTH SIDES, POWER CABLES.



TRAVELLING ON THE RAIL



MACHINE TRAVEL POSITION AS SHOWN ABOVE AND AS FOLLOWS:

- STEERING LOCK IS ENGAGED

[WARNING] EXTRA CARE AND OBSERVATION OF LINE SIDE AND OVERHEAD STRUCTURES IS REQUIRED WHEN THE MACHINE IS FITTED WITH AN ATTACHMENT THAT IS OUTSIDE THE W6 TRAVEL GAUGE IN ANY WAY.

FAILURE TO COMPLY WITH THESE REQUIREMENTS MAY RESULT IN SEVERE DAMAGE TO THE MACHINE AND/OR THE RAIL INFRASTRUCTURE.

EMERGENCY OFF TRACKING

EMERGENCY OFF TRACKING MAY BE NECESSARY DURING THE WORKING LIFESPAN OF THE MACHINE. IT MUST BE STRESSED THAT THIS IS AN EMERGENCY PROCEDURE ONLY AND SHOULD NOT BE USED IN THE NORMAL CAUSE OF EVENTS. IF YOU ARE ASKED TO OFF TRACK USING THIS METHOD, AT AN UNPREPARED LOCATION, WITHOUT SUITABLE JUSTIFICATION YOU SHOULD REPORT TO YOUR ON CALL MANAGER AND ASK HIS ADVICE BEFORE ATTEMPTING THIS MANOEUVRE. IF THERE IS REAL CAUSE TO USE THIS METHOD THERE ARE CERTAIN PROCEDURES THAT SHOULD BE FOLLOWED:

- THE OFF TRACKING AREA MUST BE INSPECTED FOR ITS SUITABILITY AS NORMAL.
- AN AREA WHERE THERE ARE NO OBSTRUCTIONS SHOULD BE SELECTED. FOR EXAMPLE, THERE SHOULD BE NO CONDUCTOR RAIL PRESENT, NO HIGH BALLAST SHOULDERS AND NO OBVIOUS HAZARDS.
- EMERGENCY OFF TRACKING MUST NOT BE CARRIED OUT ON CANTS.

IN THE EVENT OF A REAL EMERGENCY THE PROCEDURE FOR OFF TRACKING IS AS FOLLOWS:

- APPROACH THE OFF TRACKING AT A SAFE SPEED.
- SOUND THE HORN TO ALERT PERSONNEL AT THE OFF TRACKING AREA AS YOU APPROACH.
- RAISE ALL OF THE RAIL WHEELS.
- DRIVE THE MACHINE CLEAR OF THE RUNNING RAIL.

WHEN CARRYING OUT THIS OPERATION ALWAYS FOLLOW ANY HAND SIGNALS AND CARRY OUT ALL MOVEMENTS SMOOTHLY AT A SAFE SPEED.

EMERGENCY RECOVERY

IF YOUR MACHINE BREAKS DOWN IN SUCH A POSITION THAT IT IS LIKELY TO OBSTRUCT AN ADJACENT LINE OR CAUSE AN ACCIDENT OR DAMAGE TO THE RAILWAY INFRASTRUCTURE OR ANY OTHER VEHICLE, IT IS IMPORTANT THAT THE MACHINE IS PLACED IN A SAFE POSITION AS SOON AS POSSIBLE. FOR THIS REASON THE JCB 714 HAS BEEN FITTED WITH A MANUAL RECOVERY PUMP AND TOW BAR BY WHICH ANOTHER MACHINE CAN TOW IT TO SAFETY.

INSTRUCTIONS ON HOW THE RECOVERY PUMP WORKS ARE DESCRIBED BELOW, YOU MUST MAKE A POINT OF READING AND UNDERSTANDING THE PROCEDURES SO THAT IN THE EVENT OF A MACHINE FAILURE YOU ARE ABLE TO PUT THE MACHINE IN A SAFE POSITION.

THE MAIN POINTS ARE:

CONNECT YOUR MACHINE AND RECOVERY VEHICLE TOGETHER WITH THE APPROVED TOW BAR.

SELECT THE REQUIRED RAIL GEAR WITH THE TAP ON THE HAND PUMP, MAKING SURE THAT THE SCREW TAP ON THE SIDE OF THE PUMP IS SCREWED IN. DOING THIS RAISE THE RAIL GEAR SO THERE IS APPROXIMATELY 10mm BETWEEN THE ROAD WHEEL AND THE DRIVE TRUMPET.

WHEN USING THE HAND PUMP THE RAIL GEAR WILL MOVE SLOWLY.

ONLY RELEASE RAISE THE RAIL GEAR OF THE FAILED MACHINE ONCE THE TOW BAR HAS BEEN CONNECTED TO THE RECOVERY VEHICLE OTHERWISE THE MACHINE MIGHT RUN AWAY.

ENSURE THAT TOWING IS CARRIED OUT AT A SLOW SPEED APPROXIMATELY 2 MPH AS THE RECOVERY VEHICLE HAS TO BRAKE FOR BOTH VEHICLES, AT A HIGHER SPEED BRAKING DISTANCE WOULD BE GREATLY INCREASED.

RECOVERY PUMP

[WARNING] THE MACHINE SHOULD BE COUPLED TO THE TOWING VEHICLE BEFORE THIS PROCEDURE IS FOLLOWED. THE MACHINE'S BRAKES ARE DISABLED WHEN IT IS IN FREE-WHEEL MODE. FAILURE TO COUPLE THE MACHINE INITIALLY MAY RESULT IN IT ROLLING AWAY.

THERE IS A TAP ON THE RECOVERY PUMP TO DIRECT THE FLOW TO THE FRONT OR REAR RAIL GEAR. ONCE THE CORRECT AXLE HAS BEEN SELECTED USE THE HAND PUMP TO LIFT THE RAIL GEAR. MAKE SURE SCREW TAP IS TIGHTENED.



RAISE THE RAIL GEAR UNTIL THE DRIVE TRUMPET IS NO LONGER IN CONTACT WITH THE ROAD WHEELS. THE WHEELS CAN NOW ROLL FREELY.



THE MACHINE CAN NOW BE TOWED TO THE ACCESS POINT WHERE THE RAIL GEAR CAN BE LIFTED FULLY WITH THE HAND PUMP AND THE MACHINE CAN THEN BE TOWED CLEAR OF THE LINE.

EARTH BONDING STRAPS

EARTH BONDING STRAPS ARE FITTED ON THE MACHINE IN THE FOLLOWING POSITIONS:

FIGURE A. BETWEEN FRONT RAIL AXLE AND CHASSIS.

FIGURE B. BETWEEN REAR RAIL AXLE AND CHASSIS

EARTH BONDING STRAPS MUST BE IN PLACE AT ALL TIMES AND SECURELY FASTENED.

REPLACE IMMEDIATELY IF THERE ARE ANY SIGNS OF BURNING OR DAMAGE.

CHECK IMPEDANCE LEVELS AFTER REFITTING ANY STRAPS. IMPEDANCE MUST BE BELOW 0.15Ω



FIGURE A



FIGURE B