

# ARBIL RAIL

**zwick**  
TRACK TOOLS



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**USER HANDBOOK**

**Z-UHB-041  
ISSUE 4**

**TRACK ALIGNER**

**SB7417**

## SECTION 1 - DESCRIPTION

### 1. GENERAL

The Track Aligner SB7417 is designed for track slewing and aligning. It consists of a hydraulic ram and pump mounted on a base, together with a detachable pump handle, release valve, overload valve and carrying handle. The ram has a swivelling head, and in operation the base is bedded down in the ballast with the ram head placed against the web of the rail. (See operating instructions on Page 3). Operation of the pump will extend the ram with a force of up to 8 tons and a stroke of up to 6" (152 mm). The unit is of low height and is obstructionless when in operating position in the track with the pump handle removed. An optional electrically non-conducting pump handle (SD6882) can be supplied in place of the standard steel handle (SD5977).

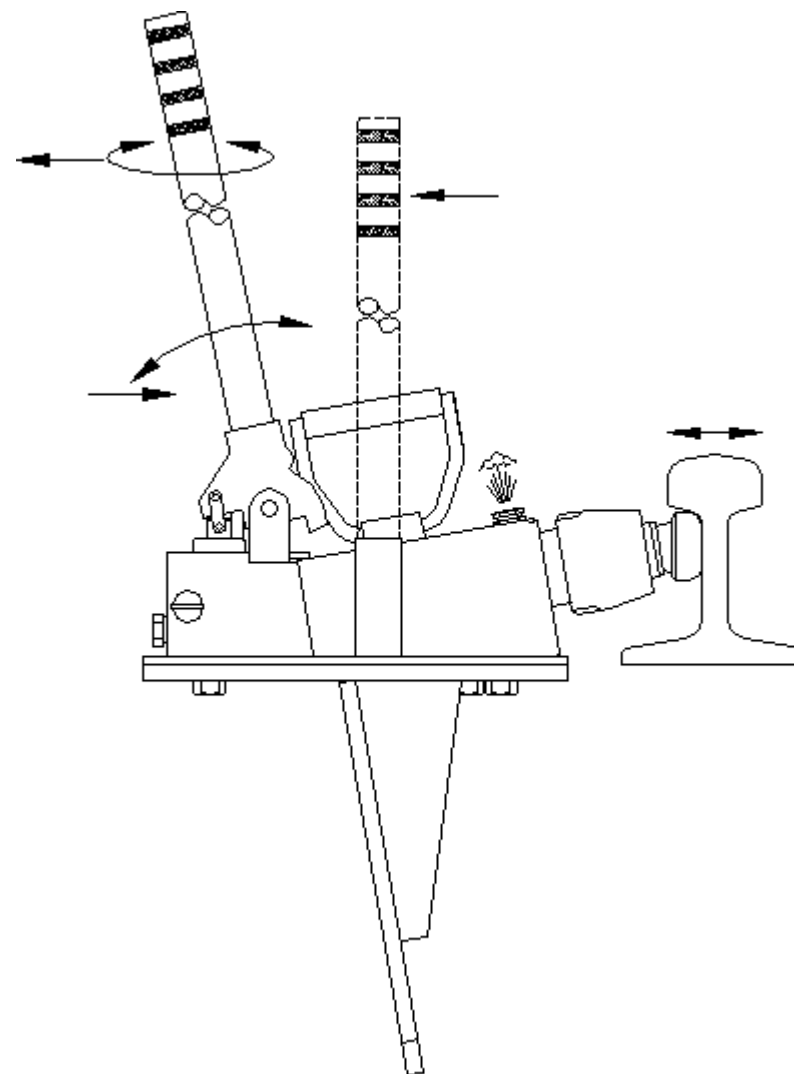
### 2. LEADING PARTICULARS

Safe Working Load:	8 tons	8128 Kg
Ram Stroke	6 in	152 mm
Weight	53 lb	24.2 Kg
Hydraulic Fluid	Shell Tellus 37 or equivalent	
Overall Dimensions:		
Length	16 <sup>3</sup> / <sub>4</sub> in	425 mm
Width	11 <sup>13</sup> / <sub>16</sub> in	300 mm
Height	19 <sup>3</sup> / <sub>8</sub> in	492 mm

THIS EQUIPMENT IS PROTECTED BY THE FOLLOWING PATENT / DESIGN REGISTRATION NUMBERS WORLD-WIDE.

2142912    1013952    286991    53056    840041    11850-00    MR21937

WE DECLARE THAT THE DESCRIBED EQUIPMENT MEETS THE REQUIREMENTS OF THE MACHINERY DIRECTIVE AS LAID DOWN IN THE SUPPLY OF MACHINERY (SAFETY) REGULATIONS 1992 No. 3073 AND THE SUPPLY OF MACHINERY (SAFETY) (AMENDMENT) 1994 No. 2063



**Model SB7417**

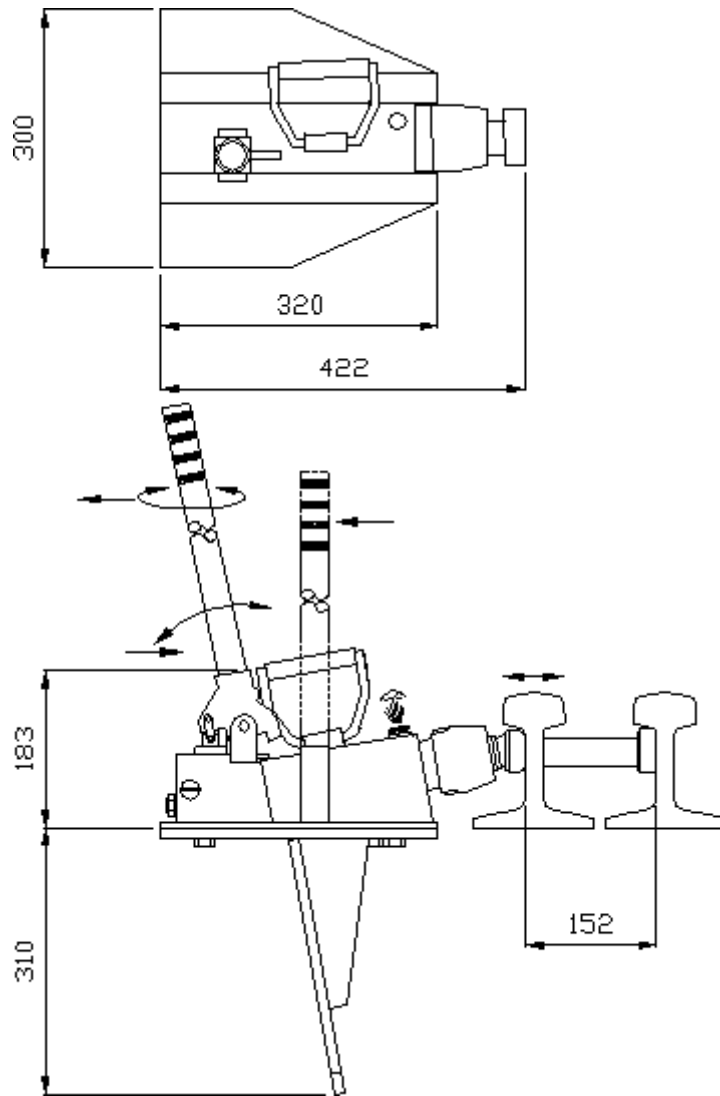


Fig 1.

### 3. HYDRAULIC CIRCUIT

- 3.1 The hydraulic principal employed in the jack consists of a reservoir containing hydraulic fluid at normal pressure and a cylinder into which the fluid is forced under pump pressure thus causing the ram to extend. When the pump plunger is raised by moving the pump handle forward, the suction ball valve is moved from its seating and fluid is drawn from the reservoir into the pump chamber via a filter. When the pump handle is moved backwards, the pump plunger is pushed downwards, the suction valve will close and fluid is delivered to the pressure cylinder via the delivery ball valve. By continued pumping, pressure is built up behind the ram, causing it to extend.
- 3.2 To retract the ram, the release valve is opened by rotating the pump handle anti-clockwise one or two turns, which allows hydraulic fluid to return from the cylinder to the reservoir. Some manual pressure on the ram head may be necessary to retract the ram.
- 3.3 An overload valve is fitted and relieves excess pressure in the cylinder, should an attempt be made to exceed the safe working load. The overload valve is preset during testing procedures and before despatch to Client at 105% of Safe Working Load. No attempt should be made to adjust the valve. Unauthorised tampering with the valve will render the Test Certificate and Warranty null and void. If at fault, DO NOT USE, withdraw from service and consult your original supplier.
- 3.4 The reservoir air / filler screw contains a non return valve that allows air to enter the reservoir and is depressed to allow excess air out.

## SECTION 2 - OPERATION

1. Remove ballast close to the rail to a sufficient depth for the blade to locate in the ballast. The Track Aligner should be used inside the track with its swivel head positioned against the web of the rail (see Fig 1). The Track Aligner may be manoeuvred into position with the pump handle inserted into the tube provided on it. Do not use the pump saddle for moving the unit. When in position, replace ballast behind the blade for it to react against.
2. Using a pick or crowbar, loosen ballast at the ends of the sleepers in the direction they are required to move.
3. Place the pump handle into the pump socket and rotate it clockwise to close the release valve.
4. Operate the pump handle to extend the ram and slew the rail
5. In an emergency, turn handle anti-clockwise and remove handle.
6. After operation, open the release valve by turning the pump handle anti-clockwise to allow the ram to retract. Depress the air/filler screw plunger to release excess air from the reservoir. Some manual assistance may be necessary to retract the ram.
7. Remove tool and replace ballast.
8. Close the release valve by turning the pump handle clockwise. Store the slewing tool with the ram retracted.
9. The ram should only be fully extended during operational conditions under load.  
  
If the unit has been in store or not used for a long period of time, oil may seep past the seals giving the appearance that the seals are leaking as the ram is extended. With further use no leakage will be noticeable.
10. Never exceed the rated safe working load of the jack.

**WARNING:**

*The pump handle or lever inserted in the pump saddle must not be used to work the Track Aligner loose from the track.*

*Failure to observe this warning will result in damage to the pump mechanism.*

*The socket at the side with the pump handle inserted may be used to exert light pressure to the end of the ram to assist in its retraction and removal of the unit from the track.*

## SECTION 3 – MAINTENANCE

The unit should be examined every time before using, in particular looking for signs of damage and fluid leaks. When necessary repairs are required, DO NOT USE, return to original supplier.

### 1. TO FILL RESERVOIR AND CHECK FLUID LEVEL

The fluid level in the reservoir should be maintained at about ½ inch (13mm) below the level of the filler hole when the ram is fully retracted and its base is horizontal.

The reservoir should be filled as follows:

- 1.1 Remove the air / filler screw assembly and insert a small, clean funnel in the filler hole.
- 1.2 Slowly pour the fluid into the reservoir until the correct level is reached.

**Recommended hydraulic fluid:- Shell Tellus 37 or equivalent**

### 2. LUBRICATION

The moving parts of the unit should be lubricated periodically with hydraulic fluid and the ram should be greased before storing for any length of time.

WHEN NOT IN USE THE RAM SHOULD BE FULLY RETRACTED.

If the unit has been in store or not used for a long period of time, oil may seep past the seals giving the appearance that the seals are leaking as the ram is extended. With further use no leakage will be noticeable.