

Wheeled Loading Shovel - 412S, 414S, 416S

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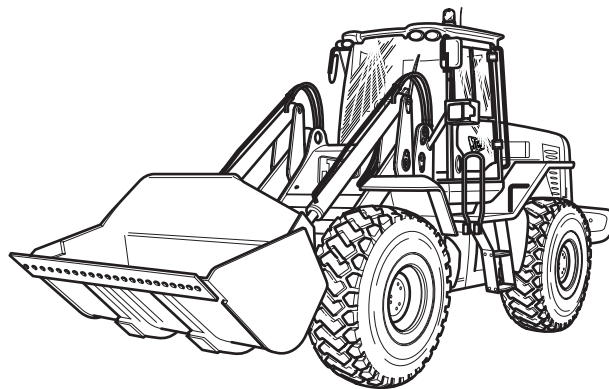
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Section 1 - General Information

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Introduction

About this Publication

This publication is designed for the benefit of JCB Distributor Service Engineers who are receiving, or have received, training by JCB Technical Training Department.

These personnel should have a sound knowledge of workshop practice, safety procedures, and general techniques associated with the maintenance and repair of hydraulic earthmoving equipment.

Renewal of oil seals, gaskets, etc., and any component showing obvious signs of wear or damage is expected as a matter of course. It is expected that components will be cleaned and lubricated where appropriate, and that any opened hose or pipe connections will be blanked to prevent excessive loss of hydraulic fluid and ingress of dirt. Finally, please remember above all else **SAFETY MUST COME FIRST!**

The manual is compiled in sections, the first three are numbered and contain information as follows:

- 1 General Information - includes torque settings and service tools.
- 2 Care & Safety - includes warnings and cautions pertinent to aspects of workshop procedures etc.
- 3 Routine Maintenance - includes service schedules and recommended lubricants for all the machine.

The remaining sections are alphabetically coded and deal with Dismantling, Overhaul etc. of specific components, for example:

- A** Attachments
- B** Body & Framework...etc.

The page numbering in each alphabetically coded section is not continuous. This allows for the insertion of new items in later issues of the manual.

Section contents, technical data, circuit descriptions, operation descriptions etc. are inserted at the beginning of each alphabetically coded section.

All sections are listed on the front cover; tabbed divider cards align directly with individual sections on the front cover for rapid reference.

Where a torque setting is given as a single figure it may be varied by plus or minus 3%. Torque figures indicated are for dry threads, hence for lubricated threads may be reduced by one third.

'Left Hand' and 'Right Hand' are as viewed from the rear of the machine facing forwards.

This Service Manual covers the following machines:

412S Wheeled Loading Shovel from machine serial number 535000

414S Wheeled Loading Shovel from machine serial number 537000

416S Wheeled Loading Shovel from machine serial number 543000

The information provided in this manual for the 414S machine also applies to the 416S machine except where specified.

Smoothshift Transmission introduced from the following serial numbers:

412S Wheeled Loading Shovel from machine serial number 535500

414S Wheeled Loading Shovel from machine serial number 537300

416S Wheeled Loading Shovel from machine serial number 543100

JCB 444 Series engine added to 412S Wheeled Loading Shovel from machine serial number 1242000.

Identifying your Machine

Identification Plates

Identification Plate

Your machine has an identification plate **1X** mounted on the left hand side of the machine on the loader arm pillar. The serial numbers of the machine and its major units are stamped on the plate.

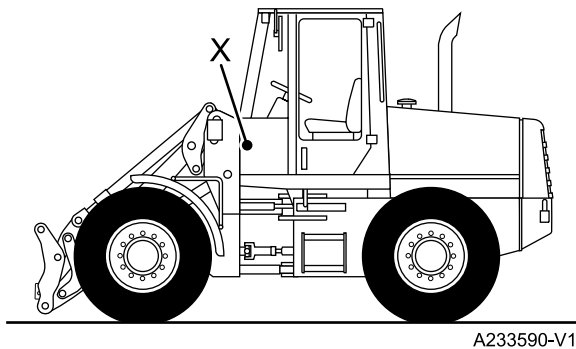


Fig 1.

Explanation of Vehicle Identification Number (VIN)

1	2	3	4	5
SLP	412S0	S	E	0527001

- 1 World Manufacturer Identification, SLP = JCB
- 2 Machine Model, 412S0 = 412S
- 3 Year of Manufacture S, (P = 1993, R = 1994, S = 1995, T = 1996, V = 1997, W = 1998, X = 1999, Y = 2000, 1 = 2001, 2 = 2002, 3 = 2003, 4 = 2004)
- 4 Manufacturing Location (E = England)
- 5 Machine Serial Number (0527001)

The serial number of each major unit is also stamped on the unit itself. If a major unit is replaced by a new one, the serial number on the identification plate will be wrong. Either stamp the new number of the unit on the

identification plate, or simply stamp out the old number. This will prevent the wrong unit number being quoted when replacement parts are ordered.

The machine and engine serial numbers can help identify exactly the type of equipment you have.

Unit Identification

The engine serial number is stamped on a plate **2Y** or **3Y** which is fastened to the right side of the cylinder block, near the fuel filter.

Note: For machines with the JCB 444 Series engine, see Section K, Technical Data.

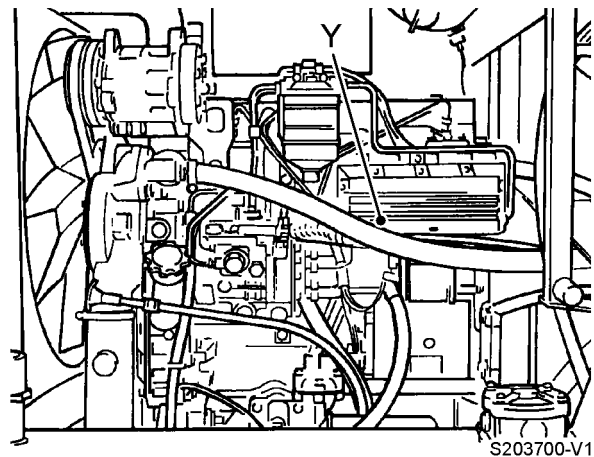


Fig 2. 412S Machines

Transmission Identification

The Transmission serial number is stamped on plate **4Z** or **5Z** as shown.

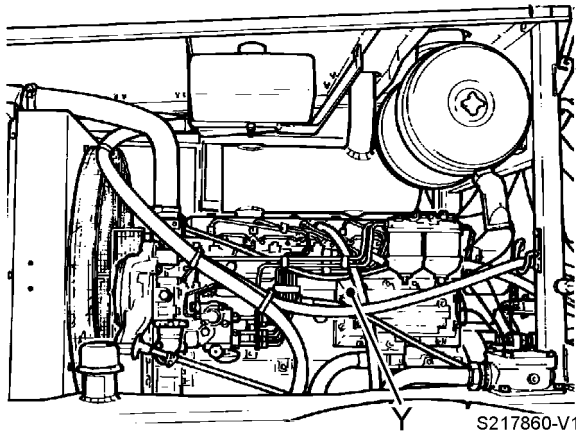


Fig 3. 414S Machines

Typical Engine Identification Number

1	2	3	4	5
AA	50261	U	500405	P

- 1 Engine Type,
 - a AA = 4 cylinder naturally aspirated
 - b AB = 4 cylinder turbo
- 2 Build Number
- 3 Country of Origin
- 4 Engine Sequence Number
- 5 Year of Manufacture

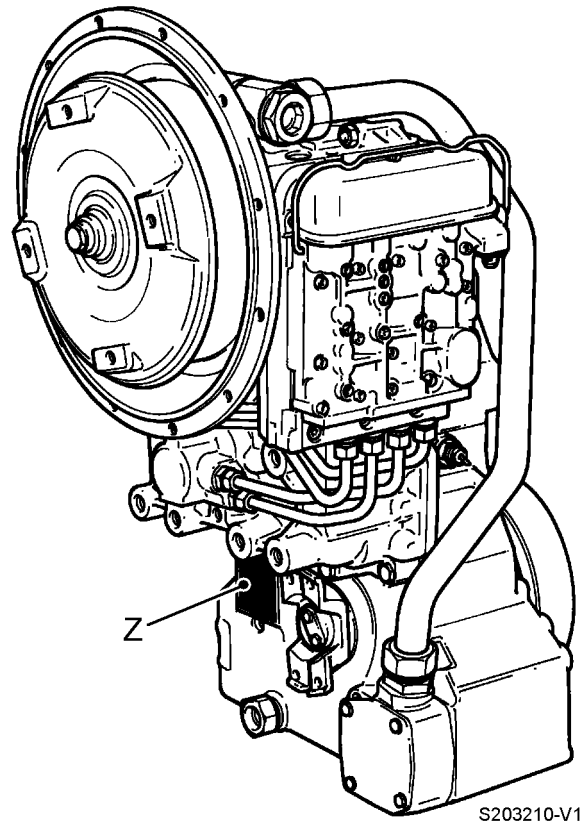
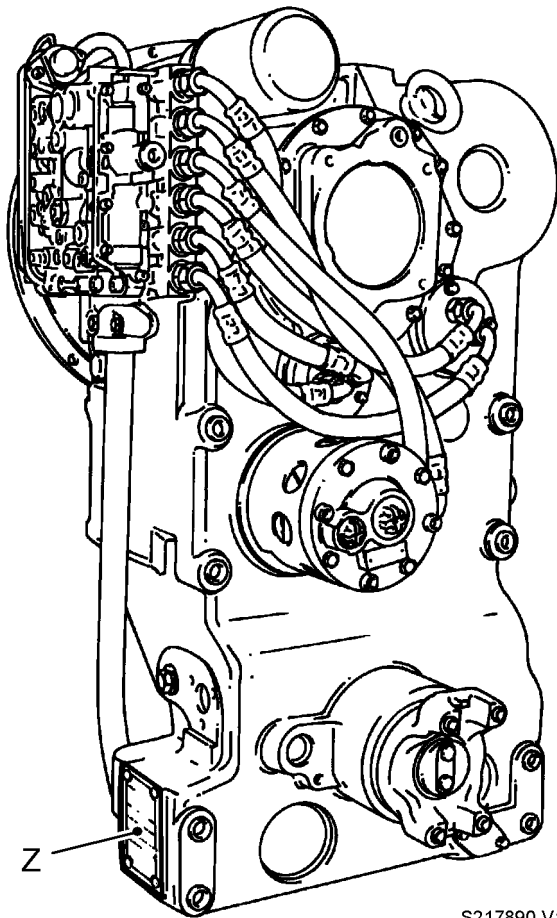


Fig 4. 412S Machines



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Fig 5. 414S Machines

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