

# **Ti**TAN OPERATOR'S MANUAL

## **LEVER HOIST** 250 KG THROUGH 9 TONNE



These Lever Hoists  
meet or exceed  
the following  
standards:

CE

AS1418.2

ANSI B30.21

ANSI B30.16

**Ti**TAN  
LIFTING TECHNOLOGIES

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## SERVICE NOTES

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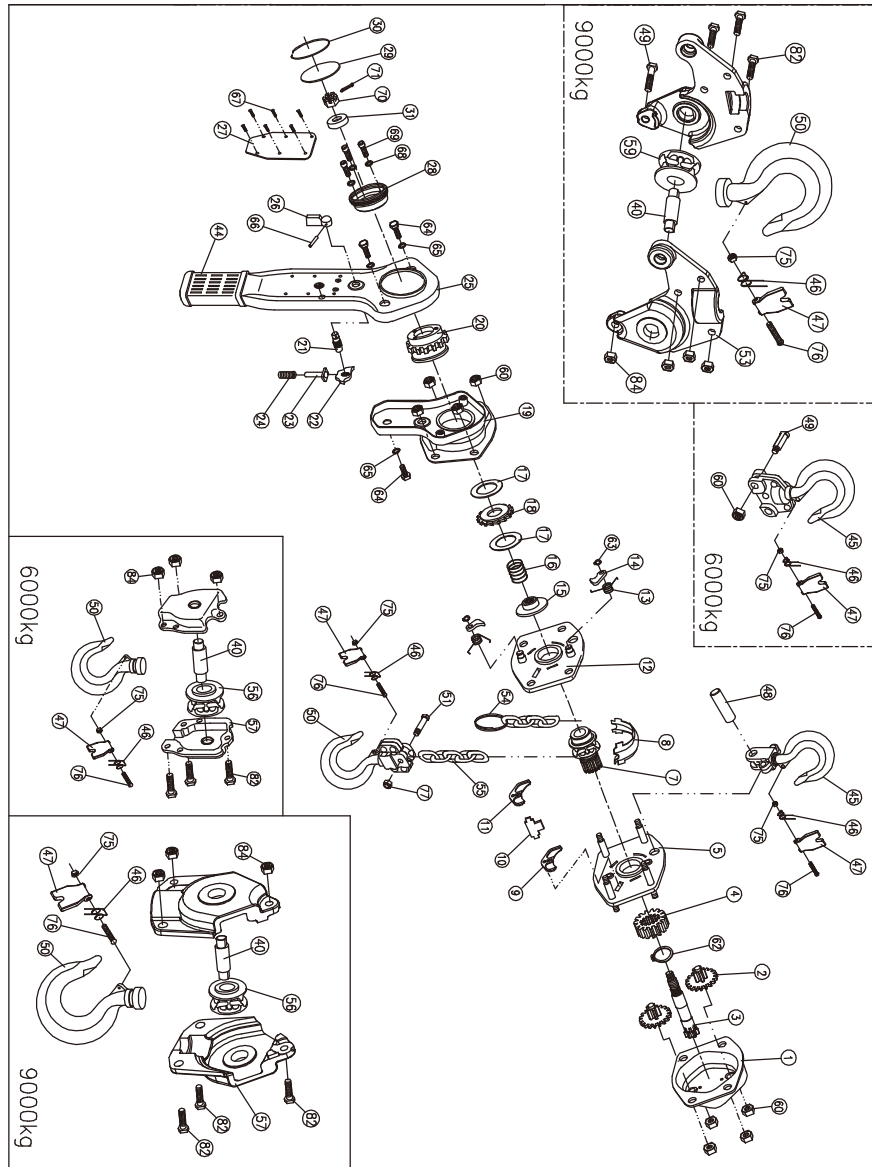
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**SPARE PARTS (0.25 Tonne - 9 Tonne)**



**ONE YEAR LIMITED WARRANTY**

Titan products are guaranteed to be free of defects in materials and workmanship. If one of these products fails during the first year of operation due to defective materials or workmanship it will be repaired or replaced at our discretion. Normal wear and tear of moving parts is excluded from this guarantee. This guarantee does not apply to any product showing signs of misuse, overloading, alteration or improper maintenance.

**WARRANTY POLICY**

Any product for which there is a warranty claim must be returned prepaid to an authorized Titan warranty depot along with proof of purchase.

For information on Titan products, please contact your local distributor:



Cnr. Chifley Drive & Fink Street  
 Preston Victoria 3072 Australia  
 Phone +61 3 9480 6063  
 Fax: +61 3 9480 6065  
 Email: sales@titanlifting.com

**SAFETY INFORMATION**

It is the responsibility of the owner/user to install, inspect, test, maintain, and operate these products in accordance with AS1418.2 standards.

These general instructions deal with the normal installation, operation and maintenance situations encountered with the products described herein.

This product should not be installed, operated or maintained by any person who has not read all the contents of these instructions. Failure to read and comply with these instructions or any of the warnings or limitations noted herein can result in serious bodily injury or death, and/or property damage.

Only trained and qualified personnel shall operate and maintain this equipment.

Equipment described herein is not designed for, and should not be used for lifting, supporting or transporting people.

Modifications to up-grade, re-rate or otherwise alter these products can only be authorized by the manufacturer.

## PRE-INSTALLATION INSTRUCTIONS

Check for damage during shipment. DO NOT install or use a damaged product. Check and verify any structure or other equipment that will support the product has a rated load capacity equal to or greater than the rated load capacity of the product to be used.

### OPERATION

Before initial operation:

1. Read and comply with all instructions and warnings furnished with or attached to the product if applicable.
2. Check lubricant.
3. Check operation of brake.
4. Where applicable, check that chain is properly seated in sheaves and that chain is not twisted, kinked or damaged.

Before each shift, where applicable:

1. Inspect hooks for nicks, gouges, cracks, and signs of pulling apart or twisting.
2. Inspect hook latch for proper operation.
3. Check chain for kinks or twists.
4. Check operation of brake.
5. Replace warning label if missing or illegible.

Before operating:

1. Be certain all personnel are clear of the load to be lifted and moved.
2. Make sure load will clear stock piles, machinery, or other obstructions when hoisting and travelling the load.

## SAFETY PRECAUTIONS

- READ** these instructions and relevant Australian Standard - AS1418.2 before installing, operating, or maintaining this equipment.
- WARN** personnel of approaching loads.

### IMPORTANT NOTICE

In order to activate the brake mechanism, it is necessary to apply the following minimum loads:

**W.L.L. 750kg = 35kg   W.L.L. 1500kg = 38kg   W.L.L. 3000kg = 50kg**  
**W.L.L. 6000kg = 55kg   W.L.L. 9000kg = 78kg**

## SPARE PARTS LIST

| No. | Part Name                  |
|-----|----------------------------|
| 1   | Cover                      |
| 2   | Gear assembly              |
| 3   | Shaft                      |
| 4   | Gear                       |
| 5   | Right plain-plate assembly |
| 7   | Lifting chain              |
| 8   | Chain Guide                |
| 9   | Ratchet wheel              |
| 10  | Stripper                   |
| 11  | Chain leader B             |
| 12  | Side plate assembly B      |
| 13  | Spring                     |
| 14  | Pawl                       |
| 15  | Brake base                 |
| 16  | Free spring                |
| 17  | Friction plate             |
| 18  | Ratchet wheel              |
| 19  | Ratchet cover unit         |
| 20  | Ratchet wheel              |
| 21  | Shaft                      |
| 22  | Pawl                       |
| 23  | Stay bar                   |
| 24  | Spring                     |
| 25  | Handle                     |
| 26  | Switch                     |
| 27  | Nameplate                  |
| 28  | Hand wheel                 |
| 29  | Cover                      |
| 30  | Ring                       |

| No. | Part Name     |
|-----|---------------|
| 31  | Ring          |
| 32  | Pawl          |
| 33  | Spring        |
| 36  | Washer        |
| 44  | Handle cover  |
| 45  | Hook assembly |
| 46  | Double spring |
| 47  | Safety latch  |
| 48  | Pin           |
| 49  | Pin           |
| 50  | Hook assembly |
| 51  | Pin           |
| 54  | Ring for lift |
| 55  | Chain         |
| 56  | Idler sheave  |
| 57  | Cover         |
| 60  | Lock nut      |
| 62  | Snap ring     |
| 63  | Snap ring     |
| 64  | Screw         |
| 65  | Washer        |
| 66  | Split pin     |
| 67  | Rivet         |
| 68  | Spring washer |
| 69  | Bolt          |
| 70  | Spring Shaft  |
| 71  | Split pin     |
| 75  | Lock nut      |
| 76  | Bolt          |
| 77  | Lock nut      |
| 80  | Split pin     |
| 81  | Nut           |

## CHAIN

Inspect chain before each use. Between regular inspections, check visually daily for nicks, gouges, weld splatter, corrosion, or distorted links. Inspect chain thoroughly if it does not feed smoothly over load sheaves. Inspect as follows.

1. Clean chain before inspection.
2. Test hoist with load and observe operation of chain over load sheaves.
3. Slacken chain and inspect contact points for excessive wear. Refer to Figure 2.

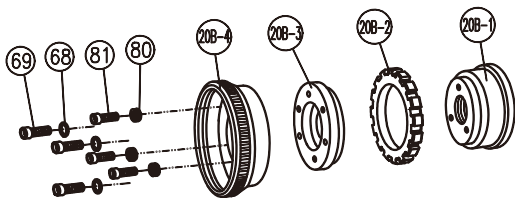


Figure 2

## OVERLOAD PROTECTION

You have purchased an **Titan** Lever Hoist fitted with overload protection. The following information should be read in conjunction with all other information contained in this Operator's Manual:

- The "LOAD-SAFE" overload protection consists of the components shown as sub-parts of part #21 in the exploded view of the product.
- The overload protection is calibrated at the time of manufacture and should not require re-calibration if the hoist is used as intended.
- The overload clutch can be re-calibrated using factory supplied tools available only to **Titan** repair agents.
- In the unlikely event of the overload clutch being damaged, complete replacement kits are available. Individual clutch components are **NOT** available.



|       |                   |
|-------|-------------------|
| 81    | M5 Screw          |
| 80    | Butterfly Spring  |
| 69    | M6 Screw          |
| 68    | Spring Washer     |
| 20B-4 | Hand Wheel        |
| 20B-3 | Pressing Block    |
| 20B-2 | Reversing Ratchet |
| 20B-1 | Brake Disc        |

## C. DO NOT, WHERE APPLICABLE:

1. Lift more the rated load.
2. Operate the product when it is restricted from forming a straight line with the direction of loading.
3. Operate with twisted, kinked or damaged chain.
4. Operate if chain is not seated in sheaves or sprockets.
5. Wrap chain around load or use chain as a sling.
6. Operate unless load is properly applied to the saddle or bowl of the hook.
7. Operate if load is applied to the tip of the hook.
8. Operate with damaged or missing hook latches.
9. Lift people or lift loads over people.
10. Operate with side-pulling or side-loading of load to hoist.
11. Operate a damaged or malfunctioning product.
12. Operate with other than hand power.
13. Remove, deface, or obscure warning label or labels.
14. Leave load suspended if unattended, unless specific precautions have been instituted.
15. Lengthen load chain or repair damaged load chain by welding.
16. Use chain as a ground for welding.

## INSPECTION AND MAINTENANCE

Prior to initial use, all new, modified and repaired products shall be inspected in accordance with Table 1. Thereafter, items to be inspected are indicated in Table 1 by F (Frequent) or P (Periodic).

**Frequent Inspections** - Visual inspection by the operator or other authorized person. This inspection includes listening for unusual sounds while the product is operated that may indicate deficiencies.

**Periodic Inspections** - Audible-visual inspection as for Frequent Inspections, with some disassembly to allow a more detailed inspection if external conditions indicate the need.

**Exception:** Brakes require more than audible-visual inspection. Check daily by operating the product with and without load, stopping at various positions to ensure safe operation.

**TABLE 1 - INSPECTION CHART**

In chart, F indicates Frequent Inspection, P indicates Periodic Inspection

| LOCATION   | CHECK FOR   | F | P |
|--|---|---|---|
| Braking mechanism  | Slipping under load   | ✓ |   |
|  | Hard to release   | ✓ |   |
| Brake parts: Brake Discs   | Glazing   |   | ✓ |
|  | Oil contamination   |   | ✓ |
|  | Pawl: Ratchet   |   | ✓ |
|  | Pawl: Spring  |   | ✓ |
| Hook   | Chemical damage   | ✓ |   |
|  | Deformation   | ✓ |   |
|  | Cracks (dye penetrant, magnetic particle, or other suitable detection method) |   | ✓ |
| Hook retaining members (Pins, Bolts, Nuts)   | Not tight or secure   |   | ✓ |
| Hook Latch   | Damaged; does not close   | ✓ |   |
| Suspension Members (Sheaves, Hand-wheels, Chain attachments, Suspension bolts or pins) | Excessive wear  |   | ✓ |
|  | Cracks  | ✓ | ✓ |
| Gears  | Distortion  |   | ✓ |
|  | Broken or worn teeth  |   | ✓ |
|  | Cracks  |   | ✓ |
|  | Inadequate lubrication  |   | ✓ |
| Load Block: Suspension housing   | Distortion  | ✓ | ✓ |
|  | Cracks  | ✓ | ✓ |
| Trolley: Supporting structure  | Possible inability to continue supporting loads                               |   | ✓ |
| Bolts, Nuts, Rivets  | Not tight or secure   |   | ✓ |
| WARNING Label  | Removed or illegible  | ✓ |   |

**HOOKS**

**WARNING**

1. Any hook that requires replacement because of excessive bends, twists, or throat opening indicates abuse or overloading of the product. Therefore, other load-supporting components of the product should be inspected for possible damage when such conditions are found.
2. Never repair hooks by welding or reshaping. Heat applied to the hook will alter the original heat treatment of the hook material and reduce the strength of the hook.
3. Never weld handles or other attachments to the hook.

**HOOK INSPECTION**

Where applicable, inspect hooks and measure throat opening at least once a month. Between regular inspections check visually daily for deformation, distortion, twisting, damage and missing or damaged hook latches.

Hooks damaged from chemicals, deformations or cracks, or that have more than 10° twist from the plane of the unbent hook or excessive opening or seat wear, must be replaced. Also, hooks that are opened to the extent that the latch does not engage the tip must be replaced. See figure 1.

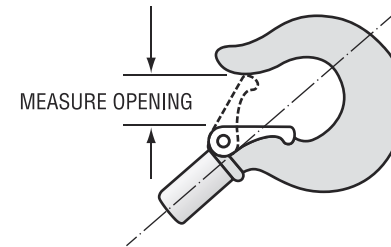


Figure 1 - Hook throat opening

| Replace hook when opening is greater than | Hoist capacity (tonnes) |
|---|-------------------------|
| 25mm                                      | 0.25                    |
| 25.5mm                                    | 0.5                     |
| 28mm                                      | 0.75                    |
| 30mm                                      | 1                       |
| 35.5mm                                    | 1.5                     |
| 39mm                                      | 2                       |
| 45mm                                      | 3                       |
| 49mm                                      | 6                       |
| 60mm                                      | 9                       |

**Note:** Top and Bottom Hooks have same dimensions.