

TP/TG

Tiger Trolley



ORIGINAL INSTRUCTION GUIDE

- PLEASE PASS ONTO OPERATOR

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Operator Instruction Guide



MUST READ BEFORE USE

- 1. It is important that this manual is read and fully understood and that all instructions are followed before using the Tiger product.
- 2. The product should be used by a trained and or experienced person who understands its use and will operate the unit in a responsible and safe manner.
- 3. Inspect the product for any damage or wear before use. Do not use the product if it is not in good working order. Continuous monitoring of the condition of the machine is an important safety consideration.
- 4. The supplier takes no responsibility for any consequential loss or damage if the product has been dismantled or altered by an unauthorised person, especially if original parts were not used to repair the machine.
- 5. The product described in this manual must not be used to lift, support or transport people in any way.
- 6. These products are for manual operation only. Do not attempt to use a motorized mechanical device to operate the machine.
- 7. Check the product is of the correct profile, size and lifting capacity, or correctly adjusted, for the beam width and that it seats correctly on the beam flange; failure to do so could result in serious injury to persons or damage to equipment.
- 8. Ensure the supporting structure is adequate for the full load that will be imposed and suitable for the application.
- 9. Do not attempt to overload the machine as this could cause damage to person or equipment.
- 10. Always ensure the product is used, maintained and repaired by a competently trained person.
- 11. Do not use the product in explosive environments unless an ATEX version has been supplied.
- 12. Always ensure the track is fitted with positive end stops which engage with the trolley frame or wheel treads.

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1. Safety Information

The operating company is responsible for the proper and professional instruction of the operating personnel. The personnel responsible for operation, maintenance or repair of the product must read, understand and follow these operating instructions. These instructions are intended to make the user familiar with the product and enable them to use it to the full extent of its intended capabilities.

The operating instructions must always be available at the place where the product is operated. Apart from the operating instructions and the accident prevention act valid for the respective country and area where the product is used, statutory regulations and procedures along with the commonly accepted regulations for safe and professional work must also be adhered to. The indicated protective measures will only provide the necessary safety if the product is operated correctly and installed and/or maintained according to the instructions. The operating company must be committed to ensure safe and trouble–free operation of the product.

Health and Safety at Work

All equipment must be maintained and tested to meet relevant statutory regulations. It is the responsibility of every company to ensure that their employees have been fully and properly trained in the safe operation of their equipment.

Equipment Labelling

The identification label/name plate details the product type, model, manufacturer, working load limit (WLL), serial number and the beam width range. The CE marking indicates compliance with the essential health and safety requirements of the Machinery Directive 2006/42/EC. Other international standards that the unit conforms to may be shown. ATEX models will be marked with the \bigcirc logo.

Safety Instructions

! WARNING

Always store and handle trolleys correctly.

Always inspect trolleys, blocks and accessories before use and before placing into storage.

Always ensure the wheel profile is suitable for the track.

Always check the trolley width is correctly set for the track.

Always ensure the track is fitted with positive end stops.

Always push rather than pull loads suspended on push/pull trolleys.

Never use defective trolleys, blocks or accessories.

Never expose trolleys to chemicals, particularly acids, without consulting the supplier.

Never expose a trolley directly to the elements, water spray, steam etc without consulting the supplier.

Never use a trolley with chipped or otherwise damaged wheel flanges.

Never obliquely side load a trolley.

Never use trolleys which are unidentified or uncertified for lifting applications.

Never replace bolts, shackles etc without consulting the supplier or an authorised repairer.

Never throw or drop trolleys.

Never use trolleys on damaged or distorted beams.

Never force or wedge hooks of lifting appliances into the anchor point.

Never attach a load, hoist or any other object to any part of the trolley other than the anchor point.

Never allow a load attached to the trolley to swing or spin unintentionally.

Never work under suspended loads.





2. Function/Operation

The Tiger TP/TG Trolley can be used to suspend a lifting appliance or load and allow it to traverse along a beam. The TP is the plain trolley model which is moved along the beam by hand. The TG is the geared trolley model which is moved along the beam by turning the hand chain.

The bar assembly comes with collars and a number of spacer washers. The combination of washers placed inside or outside of the side plates allows the trolley to be fitted to the various flange sizes within its capacity. The wheels run on sealed bearings requiring no lubrication for smoother rolling with less effort and maintenance.

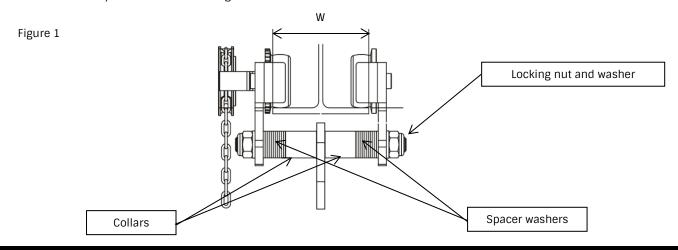
The working load limit specified on the label/name plate is the maximum load which can be applied to the product in service. The trolley must only be attached to structures which are approved and recommended to carry or sustain the maximum safe working loads which will be applied. These structures must be free from defects and have appropriate end stops fitted.

Prior to installation make sure that the flange width of the beam that the trolley is to be fitted to is within the limits indicated on the product label.

We advise that structural calculations are carried out on all beams and supporting steel work by qualified engineering departments to ensure safe operation.

To install the trolley

- 1. Measure the I Beam W dimension (figure 1)
- 2. Unscrew the locking nuts and remove these and the washers from the suspension bar. Remove both side plates from the trolley.
- 3. Place the anchor point on the bar and the collars on either side of the anchor point.
- 4. Calculate the number of the spacer washers to be placed at either side of the collars, allowing a total of around 3mm of wheel clearance between the rail and wheel flanges for lateral play of the trolley on the beam.
- 5. The anchor point must always be placed in the centre of the bar/washer/side-plate configuration so that the load is directly underneath the centre of the trolley.
- 6. Replace one side plate.
- 7. The spare washers need to be placed on the exterior side of one or both side plates.
- 8. Reassemble the washer and locking nut and fully manually tighten the locking nut on this first side plate ensuring that one thread of the bar is clear of the nylon inner of the locking nut.
- 9. Replace the second side plate checking the clearance of the wheels on the beam.
- 10. Replace the washer on the second side and fully manually tighten the second locking nut ensuring that one thread of the bar is clear of the nylon inner of the locking nut.



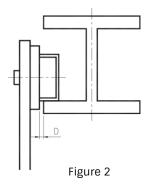




Whether the trolley can be part assembled in advance or needs to be assembled on the beam will depend on the position of and access to the beam or whether the end of the beam is open, prior to beam end stops being fitted.

Finally check the operation of the trolley hoist by rolling it along the beam with load and check the following:

- Sufficient lateral play between the flange of the trolley wheel and the outer edge of the beam flange must be maintained whilst not exceeding the maximum gap as detailed in figure 2 below.
- The anchor point must be positioned centrally under the beam flange.



D =Maximum gap						
Product Code	Capacity(tonne)	D (Max.)				
TPT-0050/TGT-0050/TPS-0050/TGS-0050	0.5	3mm				
TPT-0100/TGT-0100/TPS-0100/TGS-0100	1.0	3mm				
TPT-0200/TGT-0200/TPS-0200/TGS-0200	2.0	3mm				
TPT-0300/TGT-0300/TPS-0300/TGS-0300	3.0	3mm				
TPT-0500/TGT-0500/TPS-0500/TGS-0500	5.0	3mm				
TPT-1000/TGT-1000/TPS-1000/TGS-1000	10.0	5mm				
TPT-2000/TGT-2000/TPS-2000/TGS-2000	20.0	5mm				
TPT-2500/TGT-2500/TPS-2500/TGS-2500	25.0	5mm				
TPT-3000/TGT-3000/TPS-3000/TGS-3000	30.0	5mm				

Failure to attach the trolley correctly could result in serious injury to persons or damage to equipment. Check the trolley is of the correct profile and size, or correctly adjusted, for the beam width and that it seats correctly on the beam flange. There should be no other contact between the beam and the trolley. Ensure the lifting appliance is compatible with the trolley and that hooks or other attachments fit freely into the shackle of the trolley.

Check the runway track/beam is level, has an even running surface and is fitted with positive end stops which engage with the trolley frame or wheel treads.

The trolley must be placed directly over the centre of gravity of the load. Under no circumstances must they be obliquely side loaded as this will cause them to tip, resulting in damage to the track or the trolley becoming detached from the track and falling.

For plain trolleys, push rather than pull suspended loads.

For geared trolleys the trolley is moved along the beam by turning the hand chain.

Always transport the load in the horizontal direction slowly, carefully and close to the ground, taking care to avoid swinging the load.

Before removing it from a beam, make sure there is no load on the trolley.

Optional Locking Device

If the trolley is fitted with an optional beam locking device, the locking device hand wheel turns a worm gear which drives the locking pin to the bottom of the beam flange to clamp the trolley in place. Hand tighten the locking device hand wheel in a clockwise direction and test the trolley for movement. Continue to hand tighten until the trolley remains stationery. Over-tightening of the hand wheel will cause the worm gear to lock and will be difficult to release.



Trolley with optional locking device





3. Inspection, Examination and Maintenance

According to national and international accident prevention and safety regulations, hoisting equipment must be inspected:

- in accordance with the risk assessment of the operating company
- prior to initial operation
- · before the unit is put into service for any subsequent use
- · after substantial changes
- however, at least once per year, by a competent person.

Note: Actual operating conditions (e.g. operation in galvanizing facilities) can dictate shorter inspection intervals.

The intervals of inspection must be determined by the individual application and are based upon the type of service to which the trolley will be subjected.

Prior to initial operation, before it is put into operation again and after substantial changes

Before the unit is put into operation, for the first time, for a subsequent use or after substantial repair or modification, unless you have received physical evidence that a thorough examination has been carried out which shows that the trolley is safe to use, it should be thoroughly examined by a competent person in compliance with applicable statutory regulations.

Typical pre-use inspection will consist of a visual inspection and a function check. These inspections are intended to establish that the trolley is in a safe condition, has been set up appropriately and is ready for operation, and that any defects or damage are detected and eliminated.

Inspect the trolley for operation warning notices and legibility. Deficiencies should be noted and brought to the attention of supervisors. Be sure defective trolleys are tagged and taken out of service until repairs are made. Under no circumstances should you operate a malfunctioning trolley.

The following checks should be carried out before starting work:

- Inspect the unit for visual defects, e.g. deformations, damage, cracks, wear and corrosion marks.
- Check that the name plate/label showing the trolley capacity is attached and clearly legible.
- · Check lubrication and lubricate if necessary.
- Examine the wheel treads and flanges for wear and damage.
- · Check for insecure wheels and axle pins.
- Examine the anchor pin for damage and distortion.
- Check for worn or chipped drive gears.
- Examine side frame for wear, damage and distortion.
- Examine suspension bar for damaged threads and distortion.
- Check for loose or missing nuts and for missing split pins.
- Examine for corrosion.
- Examine for illegible markings.
- In the case of a trolley in-situ, examine the beam to which the trolley is attached for any distortion.

In the event of any defects refer the trolley to a Tiger distributor or Competent Person for thorough examination.

Inspect the supporting structure for visual defects, e.g. deformations, damage, cracks, wear and corrosion marks. Check the runway track/beam is level, has an even running surface and is fitted with positive end stops which engage with the trolley frame or wheel treads.

Check that the trolley and the load are correctly attached. The selection and calculation of the appropriate supporting structure are the responsibility of the operating company.





For TG geared trolley models

TG geared trolley models are supplied with a hand chain operated gear. Inspection of the hand chain must be included in any inspection of the TG trolley. If the unit's hand chain has been supplied with a Tiger Hand Chain Joiner link, make sure that it has been fitted correctly and is in good working order. See Chapter 4 – Hand Chain for Geared TG Model for more information.

Thorough Examination

This trolley must be subject to periodic thorough examination in compliance with national statutory regulations

Reports of thorough examination can be based on statutory maximum intervals or via a written examination scheme based on risks and hazards associated with use.

An Inspection Log is included in Chapter 11 for making a dated record of any required inspections.

Maintenance

Maintenance of the trolley should include the following:

- · Clean the trolley.
- · Lubricate any moving parts including the pinion gear and wheel teeth for geared trolleys.
- · Keep the running surface of wheels and contact surface of the track free of any contamination including lubricants.
- Correctly secure all fastenings.

4. Hand Chain for Geared TG Model

Tiger hand chain is 5mm × 24mm and either galvanised hand chain or corrosion protected hand chain.

Only fit hand chains which have been approved by the manufacturer.

If the unit's hand chain has been supplied or subsequently fitted with a Tiger hand chain joiner link (HC-050-JL) make sure that it has been fitted correctly and is in good working order.

Make sure that the HC-050-JL has been fitted in the correct orientation as shown in figure 1 below.





Figure 1 Figure 2

Regularly inspect the HC-050-JL. In the event of any defects remove from service and refer the hoist to a competent person for thorough examination

Hand Chain Maintenance

Hand Chain should be cleaned, inspected and checked for damage. Hand chain, used on geared trolleys, does not normally require lubrication.





5. Transport, Storage, Decommissioning and Disposal

Transporting the unit:

- Do not drop or throw the unit, always deposit it carefully.
- Use suitable transport means. These depend on the local conditions.

Storing or temporarily taking the unit out of service:

To ensure the continuing integrity of the unit you should store the unit in conditions that do not lead to damage or deterioration. Therefore:

- Inspect trolleys and accessories before placing into storage.
- Never return damaged trolleys to storage.
- The unit should be secured against unauthorised and unwarranted use.
- Store the unit in a clean and dry place.
- Protect the unit including all accessories against contamination, humidity and damage by means of a suitable cover.
- · Protect against corrosion.
- Wipe off all dirt and water.
- A light oil film should be applied to the adjusting bar.
- If the unit is to be used again after it has been taken out of service, it must first be inspected again by a competent person.

Disposal

When the product comes to the end of its lifecycle, after taking the unit out of service, recycle or dispose of the parts of the unit respecting local and national environmental regulations.

6. Manufacturer Testing and Verification

This product was manufactured under our single-unit control of quality and was passed with strict inspection in accordance with our inspection standards.

Capacity (tonne)	WLL (kg)	Test Load (kg)
0.5	500	750
1	1000	1500
2	2000	3000
3	3000	4500
5	5000	7500

Capacity (tonne)	WLL (kg)	Test Load (kg)
10	10000	15000
20	20000	25000
25	25000	31250
30	30000	37500

The operating temperature range is -30° C (-22° F) to $+50^{\circ}$ C ($+122^{\circ}$ F) unless the unit has been specifically supplied for the range -50° C (-58° F) to $+50^{\circ}$ C ($+122^{\circ}$ F).

Declaration of Conformity

Tiger TP/TG Trolleys have a 5:1 factor of safety. They are tested in line with the requirements within applicable sections of the European standard EN 13157: 2004+A1:2009 and the Australian standard AS1418.2. All items comply with the essential health and safety requirements of the Machinery Directive 2006/42/EC. Tiger trolleys are third party verified by SGS Certificate Number MDC 1302.





7. Troubleshooting

Problem	Cause	Solution				
Trolley Seized	Wear and tear	Lubricate any moving parts/Replace trolley				
	Poor maintenance and inspection	Refer to manual for maintenance and inspection details				
	Poor storage and handling	Refer to manual for storage information.				
	Trolley is overloaded	Load trolley to rated capacity only				
Difficulties adjusting trolley to beam	Damaged or distorted threads or suspension bar.	Replace damaged components.				
Hand chain catches or jams (for TG geared trolley)	Damaged hand chain, hand chain wheel, pinion.	Replace damaged components or replace trolley.				
,	Poor maintenance and inspection.	Lubricate exposed trolley drive pinion and wheel teeth.				
	Hand chain not installed properly (twisted or kinked).	Remove hand chain and re-install.				



8. Product Warranty and Warnings

Definitions

'Customer' means the individual, firm, company or other party with whom the Company contracts;

'Company' means Tiger Lifting UK Limited or Woo Sing Industrial Co., Ltd;

'Contract' the contract between the Company and the Customer for the sale and purchase of this product;

'Defective Goods' goods, parts or materials, which by reason of fault or incorrect design or workmanship, are found to be defective or fail or are unable to perform in accordance with a Contract;

One Year Limited Warranty

The Company makes every effort to assure that its products meet high quality and durability standards and extends the following warranty to the Customer of new products manufactured by the Company:

- 1. The Company warrants that this product, when shipped, shall be free from defects in materials and workmanship under normal use and service and the Company shall, at its election, repair or replace free of charge any Defective Goods, provided that all claims for defects under this warranty shall be made in writing immediately upon discovery and, in any event, within one (1) year from the date of purchase of this product by the Customer and provided, further, that Defective Goods shall be kept for examination by the Company or its authorised agents or returned to the Company or an authorised service centre upon request by the Company.
- 2. The Company does not warrant components of products provided by other manufacturers. However to the extent possible, the Company will assign to the "Purchaser" applicable warranties of such other manufacturers.
- 3. Except for the repair or replacement mentioned in (1.) above, which is the Company's sole liability and Customer's exclusive remedy under this warranty, the Company shall not be responsible for any other claims arising out of the purchase and use of this product, regardless of whether the Customer's claims are based on breach of contract, tort (including negligence), breach of statutory duty, or otherwise, including claims for any loss of profit, goodwill or business opportunity or any indirect or consequential loss arising under or in connection with the Contract.
- 4. This one year limited warranty is conditional upon the installation, maintenance and use of this product pursuant to the product manuals prepared in accordance with content instructions by the Company. The warranty on this product does not apply to defects due directly or indirectly to misuse, abuse, negligence or accidents. This warranty does not apply if the product has been subjected to improper fittings, alignment or maintenance.
- 5. The Company shall not be responsible for any loss or damage caused by transportation, prolonged or improper storage or normal wear and tear of this product or for loss of operating time.
- 6. This warranty shall not apply to this product if it has been fitted with or repaired with parts, components or items not supplied or approved by the Company or which have been modified or altered.
- 7. The Company limits all implied warranties to the period specified above from the date the product was purchased by the Customer.
- 8. Except as stated herein, any implied warranties or merchantability and fitness are excluded.

If our inspection discloses a defect, the Company will repair, replace the product or refund the purchase price, if we cannot readily or quickly provide a repair or replacement and if you are willing to accept such refund. The Company will return repaired or replacement products at The Company's expense, but if it is determined there is no defect, or that the defect resulted from causes not within the scope of Tiger Lifting's warranty, then the Customer must bear the cost of storing and retrieving the product.

! WARNING

The use of this product is beyond the control of Tiger Lifting. The warranty of this product is limited to the replacement cost of this product should it be found to be defective in material and/or workmanship. The warranty is void if the trolley is damaged, worn or used improperly. Normal wear and tear is not considered grounds for replacement. The Tiger Lifting product warranty does not apply where there has been excessive overloading of the trolley.

Disclaimer

We believe that the information in this document, including technical information and any advice, is reliable although we give no guarantee as to its accuracy or completeness. The user of our products must determine if the product, either used alone or conjunction with other products, is suitable for their purpose and assumes all risk and liability in connection with those decisions. We have made every effort to make sure this document is accurate. The information contained in this document does not form part of any contract.

Please also refer to our terms and conditions which can be found at: www.tigerlifting.com/terms-conditions/





9. Technical Data

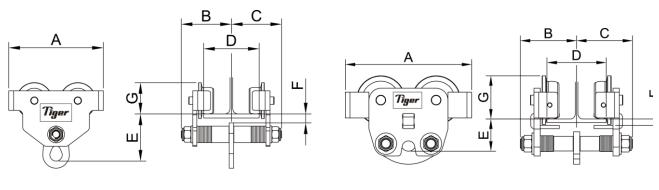
Plain Trolleys

			D - Tracl	D - Track width #			Dimensions (mm)								
	Product Code	Capacity (tonne)	Range 1 (mm)	Range 2 (mm)	Α	В	С	E	F	G	Н	J	К	curve ratio (m)	Net Weight (kg)
	TPS-0050	0.5	62-128	62-203	195	106	106	98	20	64	10	24	30	0.8	5.0
	TPS-0100	1.0	62-128	62-203	213	113	113	106	20	71	10	27	34	1.0	7.5
	TPS-0200	2.0	88-154	88-230	236	136	136	132	25	80	13	38	46	1.3	12.0
Single Bar	TPS-0300	3.0	88-153	88-230	270	146	146	150	25	97	13	42	53	1.5	19.0
Trolleys	TPS-0500	5.0	106-194	106-305	323	169	169	174	30	117	16	46	59	1.5	30.0
	TPT-0300	3.0	88-153	88-230	320	142	142	82	16	110				1.5	19.0
Twin Bar Trolleys	TPT-0500	5.0	106-194	106-305	352	167	166	91	24	131				1.5	30.0
	TPT-1000	10.0	150-320	N/A	460	255	255	248	42‡	182	23	74	100	2.7	135.5

Notes:

 ${\bf H}$ is the thickness of the anchor point, ${\bf J}$ is the width of the anchor point opening and ${\bf K}$ is the height of the anchor point opening.

- ‡ A beam flange thickness up to 50mm can be accommodated if required please ask for more information.
- # Please contact us for track widths outside of these ranges.



Single Bar

Twin Bar





Geared Trolleys

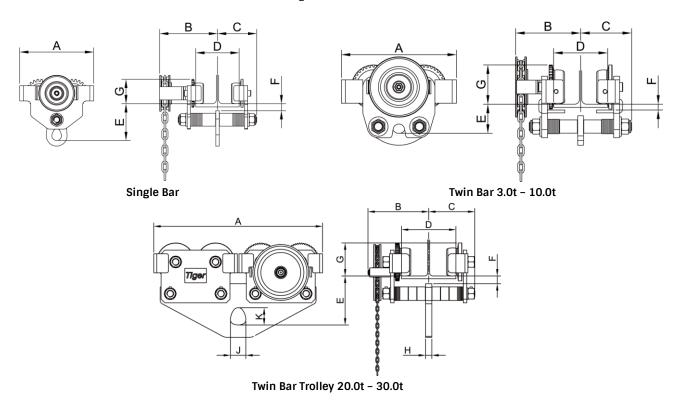
			D - Track	D - Track width #			Dimensions (mm)							Min.	Net
	Product Code	Capacity (tonne)	Range 1 (mm)	Range 2 (mm)	Α	В	С	E	F	G	Н	J	К	curve ratio (m)	Weight (kg)
	TGS-0050	0.5	62-128	62-203	195	165	106	98	20	64	10	24	30	0.8	9.0
O'I- D	TGS-0100	1.0	62-128	62-203	213	170	113	106	20	71	10	27	34	1.0	11.0
Single Bar Trolleys	TGS-0200	2.0	88-154	88-230	236	182	136	132	25	80	13	38	46	1.3	16.5
	TGS-0300	3.0	88-153	88-230	270	184	146	150	25	97	13	42	53	1.5	23.5
	TGS-0500	5.0	106-194	106-305	323	210	169	174	30	117	16	46	59	1.5	34.5
	TGT-0300	3.0	88-153	88-230	320	181	142	82	16	110				1.5	23.5
	TGT-0500	5.0	106-194	106-305	352	202	166	91	24	131				1.5	34.5
Twin Bar	TGT-1000	10.0	150-320	N/A	460	335	255	248	42‡	182	23	74	100	2.7	150.0
Trolleys	TGT-2000	20.0	150-320	N/A	930	335	255	270	42‡	182	35	85	95	6.0	356.0
	TGT-2500	25.0	150-320	N/A	930	335	255	278	42‡	182	38	100	115	6.0	363.0
	TGT-3000	30.0	150-320	N/A	990	348	267	288	42‡	182	38	100	115	6.0	368.0

Standard geared trolley hand chain length – 2.5m. We can change the length to suit your requirements.

Notes

 ${\bf H}$ is the thickness of the anchor point, ${\bf J}$ is the width of the anchor point opening and ${\bf K}$ is the height of the anchor point opening.

- ‡ A beam flange thickness up to 50mm can be accommodated if required please ask for more information.
- # Please contact us for track widths outside of these ranges.



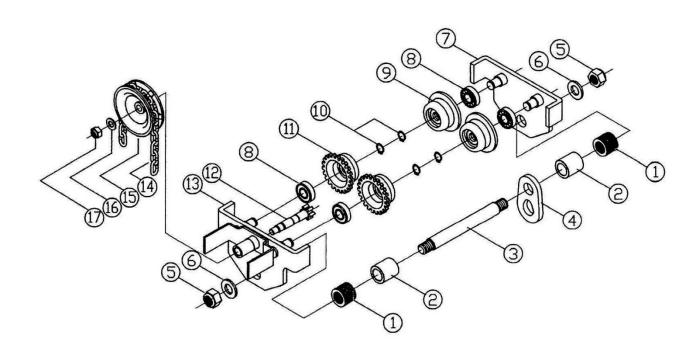
Due to our policy of continual product development, dimensions, weights and specifications may change without prior notice.





10. Exploded Diagram

The following diagram is intended to clarify terms that appear in the Product Operation and the Inspection and Maintenance chapters.



Part No.	Part Name	Part No.	Part Name	Part No.	Part Name
1	Adjusting washers	6	Washer	11	Wheel for geared trolley
2	Collar	7/13	Side frame	12	Pinion gear for geared trolley
3	Suspension bar	8	Bearing	14/15/16/17	Hand wheel assembly for geared trolley
4	Anchor point	9	Wheel		
5	Locking nut	10	Locking handle		





11. Inspection Log

Test Certificate/DOC Number	Model Number		Product Description	
Date introduced into service		Serial Number		
<u>.</u>			•	
Date	Comments		Signature	





Owner's N	Notes







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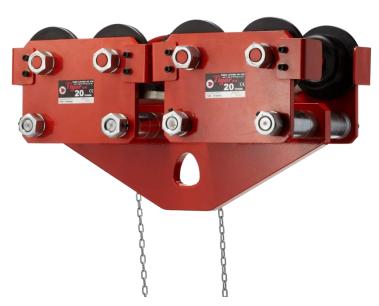
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