



Please dispose of packaging for the product in a responsible manner. It is suitable for recycling. Help to protect the environment, take the packaging to the local amenity tip and place into the appropriate recycling bin.

Foldable Engine Cranes



03685 & 03687

**FOR HELP OR ADVICE ON THIS PRODUCT PLEASE CONTACT YOUR DISTRIBUTOR,
OR SIP DIRECTLY ON:
TEL: 01509500400
EMAIL: sales@sip-group.com or technical@sip-group.com
www.sip-group.com**

Please read and fully understand the instructions in this manual before operation. Keep this manual safe for future reference.

Declaration of Conformity

We

SIP (Industrial Products) Ltd
Gelders Hall Road
Shepshed
Loughborough
Leicestershire
LE12 9NH
England

As the manufacturer's authorised representative within the EC
declare that the

1 Ton Foldable Engine Crane - SIP Part No. 03685
2 Ton Foldable Engine Crane - SIP Part No. 03687

Conforms to the requirements of the following directive/s, as indicated.

2006/42/EC Machinery Directive

And The Relevant Harmonised Standard/s, including

EN ISO 12100:2010
EN 1494:2000+A1:2008

Signed: 

Mr P. Ippaso - Managing Director - SIP (Industrial Products) Ltd
Date: 28/02/2016.



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SAFETY SYMBOLS USED THROUGHOUT THIS MANUAL



Danger / Caution: Indicates risk of personal injury and/or the possibility of damage.



Note: Supplementary information.

SAFETY INSTRUCTIONS



IMPORTANT: Please read the following instructions carefully, *failure to do so could lead to serious personal injury and / or damage to the Engine Crane.*

When using your engine crane, basic safety precautions should always be followed to reduce the risk of personal injury and / or damage to the engine crane or load. Read all of these instructions before operating the engine crane and save this user manual for future reference.

The engine crane should **not** be modified or used for any application other than that for which it was designed.

The engine crane was designed for safely lifting engines up to its rated capacity.

If you are unsure of its relative applications do not hesitate to contact us and we will be more than happy to advise you.

Before operating the engine crane always check no parts are broken, that no oil is leaking and that no parts are missing.

Always operate the engine crane safely and correctly.

KNOW YOUR ENGINE CRANE: Read and understand the owner's manual and labels affixed to the engine crane. Learn its applications and limitations, as well as the potential hazards specific to it.

KEEP CHILDREN AND UNTRAINED PERSONNEL AWAY FROM THE WORK AREA: All visitors should be kept at a safe distance from the work area; never allow untrained persons to operate the engine crane.

STAY ALERT: Always watch what you are doing and use common sense.

NEVER LEAVE THE ENGINE CRANE UNATTENDED: When in use / under load.

HAVE YOUR ENGINE CRANE REPAIRED BY A QUALIFIED PERSON: The engine crane is in accordance with the relevant safety requirements. Repairs should only be carried out by qualified persons using original spare parts, otherwise this may result in considerable danger to the user and void the warranty.

DANGER! Check that the engine crane is in sound condition and good working order before each use; Take immediate action to repair or replace damaged parts.

PARTS LIST 03687

Ref. No.	Description	SIP Part No.	Ref. No.	Description	SIP Part No.
7.	Castor (3 1/2")	HY01-00710	1.	Bolt (M16x90)	HY01-00723
10.	Castor (3")	HY01-00711	2.	Bolt (M14x100)	
11.	Lock pin	HY01-00712	3.	Bolt (M16x100)	
14.	R-pin	HY01-00713	4.	Washer M16	
21.	Support	HY01-00714	5.	Nut M16	
22.	Post	HY01-00715	6A.	Bolt (M8x16)	
23.	Boom	HY01-00716	6B.	Bolt (M8x18)	
24.	Boom extension	HY01-00717	8.	Spring washer M8	
25.	Ram	HY01-00718	9.	Nut M8	
26.	Chain c/w hook	HY01-00719	12.	Washer M14	
27.	Ram handle	HY01-00720	13.	Nut M14	
28.	Base	HY01-00721	15.	Bolt (M12x80)	
29.	Leg	HY01-00722	16.	Washer M12	
			17.	Spring washer M12	
			18.	Nut M12	
			19.	Bolt (M16x80)	
			20.	Bolt (M16x110)	

PARTS LIST 03685

Ref. No.	Description	SIP Part No.	Ref. No.	Description	SIP Part No.
7.	Castor (3½")	HY01-00710	1.	Bolt (M16x90)	HY01-00723
10.	Castor (3")	HY01-00711	2.	Bolt (M14x100)	
11.	Lock pin	HY01-00712	3.	Bolt (M16x100)	
14.	R-pin	HY01-00713	4.	Washer M16	
21.	Support	HY01-00860	5.	Nut M16	
22.	Post	HY01-00861	6A.	Bolt (M8x16)	
23.	Boom	HY01-00862	6B.	Bolt (M8x18)	
24.	Boom extension	HY01-00863	8.	Spring washer M8	
25.	Ram	HY01-00864	9.	Nut M8	
26.	Chain c/w hook	HY01-00719	12.	Washer M14	
27.	Ram handle	HY01-00720	13.	Nut M14	
28.	Base	HY01-00865	15.	Bolt (M12x80)	
29.	Leg	HY01-00866	16.	Washer M12	
			17.	Spring washer M12	
			18.	Nut M12	
			19.	Bolt (M16x80)	
			20.	Bolt (M16x110)	

SAFETY INSTRUCTIONS....cont

WARNING! Only operate on a level and stable surface and never use on soft ground where the engine crane is likely to "sink" whilst in operation.

NEVER STAND ON THE ENGINE CRANE: The engine crane is not designed for this purpose.

DO NOT dismantle or tamper with the engine crane, as this may be dangerous and will invalidate the warranty.

If a problem with the engine crane is experienced or suspected stop using the engine crane **immediately** and contact your distributor for repair.

- Do not attempt to lift a load that exceeds the rated capacity of the engine crane.
- Do not attempt to lift a load beyond the maximum height of the engine crane.
- This engine crane is a lifting device only.
- Never work on, under or around a load supported only by the engine crane.
- Regularly inspect and lubricate the engine crane, ensuring that it is in good working order and condition.
- Always ensure that the work area is clean and tidy, free from unrelated materials and has adequate lighting.
- Ensure that all persons in the area are aware of the operation being attempted.
- Check the vehicle's recommended lifting points by referring to the vehicle's manual. Ensure that the lifting point is not corroded.
- **DO NOT** allow the vehicle to move during jacking.
- **DO NOT** remove an engine if this may result in the spillage of fuel, battery acid, or other dangerous substances.
- Check that the engine crane is stable and on the correct weight position before attempting to remove the engine.
- Keep hands, limbs etc. clear of moving parts during the raising and lowering of the engine.
- **DO NOT** top-up the hydraulic ram with brake fluid, or other oil types; use only hydraulic oil.
- **DO NOT** adjust the safety overload valve.
- Ensure that there are no persons or obstructions beneath the load before lowering.
- Clean and stow the engine crane correctly, with the hydraulic ram in the down position, **DO NOT** leave it extended; ensure storage area is dry.
- Failure to follow the warnings in this manual, may result in personal injury and/or property damage.
- Understand the operating environment; Before each use the operator should assess, understand and where possible reduce the specific risks and dangers associated with the operating environment. Bystanders should also be made aware of any risks associated with the operating environment.

SAFETY INSTRUCTIONS....cont



Danger: *Never* lift a load greater than that which the engine crane was designed for, overloading can lead to severe personal injury or damage to the engine crane.



CAUTION: The warnings and cautions mentioned in this user manual can not cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be applied.

GUARANTEE

These SIP engine cranes are covered by a 12 month parts and labour warranty covering failure due to manufacturers defects. This does not cover failure due to misuse or operating the engine crane outside the scope of this manual - any claims deemed to be outside the scope of the warranty may be subject to charges including, but not limited to parts, labour and carriage costs.

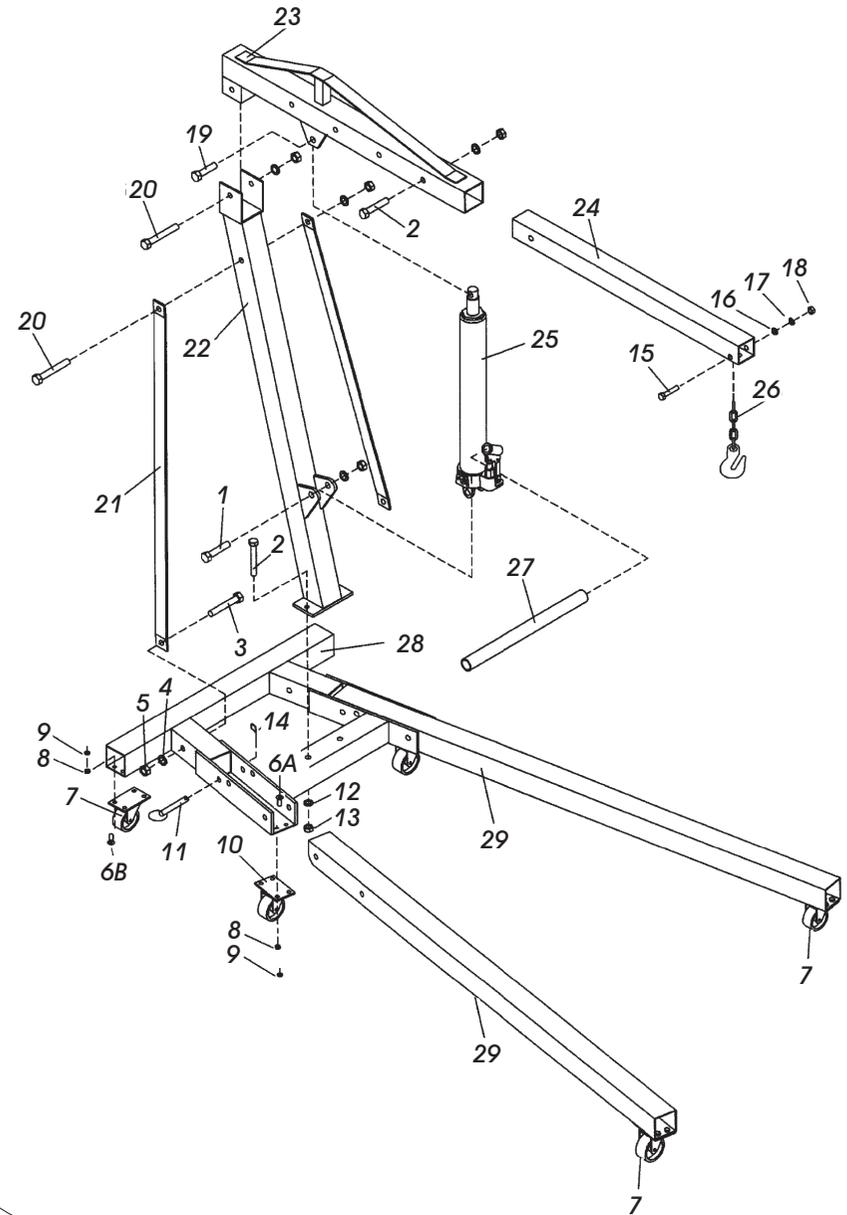
This guarantee does not cover consumables such as oil etc.

In the unlikely event of warranty claims, contact your distributor as soon as possible.



Note: Proof of purchase will be required before any warranty can be honoured.

EXPLODED DRAWING 03685 & 03687



TROUBLESHOOTING

Symptom	Possible Causes	Corrective Action
Hydraulic ram will not lift load.	<ul style="list-style-type: none"> Release valve not tightly closed. Load is too heavy. 	<ul style="list-style-type: none"> Ensure release valve tightly closed. Move to the correct boom extension setting.
Hydraulic ram will lift, but not maintain pressure.	<ul style="list-style-type: none"> Release valve not tightly closed. Hydraulic unit malfunction. 	<ul style="list-style-type: none"> Ensure release valve tightly closed. Discontinue use, contact supplier.
Hydraulic ram will not lower.	<ul style="list-style-type: none"> Reservoir overfilled. Linkages binding. Low oil level. 	<ul style="list-style-type: none"> Drain oil to proper level. Clean and lubricate moving parts. Ensure proper oil level.
Poor lift performance.	<ul style="list-style-type: none"> Low oil level. Air trapped in system. 	<ul style="list-style-type: none"> Ensure proper oil level. See bleeding the air
Will not lift to full extension.	<ul style="list-style-type: none"> Low oil level. 	<ul style="list-style-type: none"> Ensure proper oil level.

CONTENTS & ACCESSORIES

03685 1 Ton Engine Crane

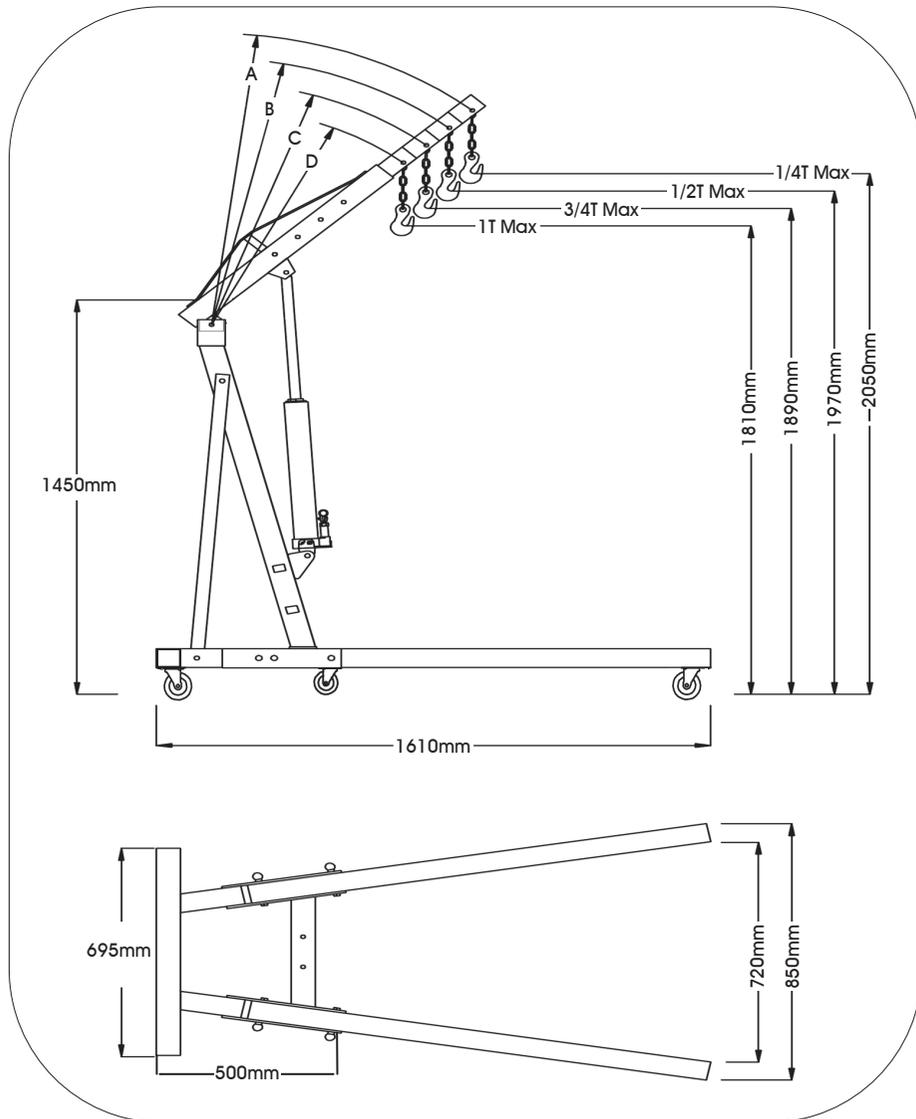
Box-P1			
Leg (x2)	Support (x2)	Post	Boom
Boom Extension	Hydraulic Ram	Ram Handle	Castor 3" (x2)
Castor 3 1/2" (x4)	Chain (c/w hook)	Chain Bolt M12x80	
Box-P2			
Base	R-pin (x4)	Lock pin (x4)	Bolt M8 × 16 (x16)
Bolt M8 × 18 (x8)	Bolt M14 × 100 (x3)	Bolt M16 × 80	Bolt M16 × 90
Bolt M16 × 100 (x2)	Bolt M16 × 110 (x2)	M8 Nut (x24)	M12 Nut
M14 Nut (x3)	M16 Nut (x6)	M12 Washer	M14 Washer (x3)
M16 Washer (x6)	M8 Spring Washer (x24)	M12 Spring Washer	Manual

03687 2 Ton Engine Crane

Box-P1			
Leg (x2)	Support (x2)	Post	Boom
Boom Extension	Hydraulic Ram	Ram Handle	Castor 3 1/2" (x2)
Chain (c/w hook)	Chain Bolt M12x80	M12 Nut	M12 Spring Washer
M12 Washer			
Box-P2			
Base	Castor 3 (x2)	R-pin (x4)	Lock pin (x4)
Bolt M8 × 16 (x16)	Bolt M8 × 18 (x8)	Bolt M14 × 100 (x3)	Bolt M16 × 80
Bolt M16 × 90	Bolt M16 × 100 (x2)	Bolt M16 × 110 (x2)	M8 Nut (x24)
M14 Nut (x3)	M16 Nut (x6)	M14 Washer (x3)	M16 Washer (x6)
M8 Spring Washer (x24)	Manual		



Note: If any of the above are missing or damaged, contact your distributor immediately.



Capacity (Max.)	1 Ton	Position A	1080mm
Lift Position Capacities	1/4, 1/2, 3/4 & 1 Ton	Position B	990mm
Oil Type	ISO 15	Position C	900mm
Oil Capacity (approximately)	0.7 Litre	Position D	810mm

- Step 1:** Lower the hydraulic ram so its at its lowest position (turn the release valve anti-clockwise).
- Step 2:** Remove the oil fill bung fully from the hydraulic ram.
- Step 3:** Check the oil level and top up if required. The oil level should be just below the oil fill hole.
- Step 4:** Refit the oil fill bung.



Note: Do not pump the hydraulic ram handle when filling with oil.

OIL CHANGE

For the best performance and longest life, completely change the oil at least once per year. Always dispose of hydraulic oil in accordance with local regulations.

- Step 1:** Remove the hydraulic ram from the crane.
- Step 2:** Make sure the hydraulic ram is at its lowest position (turn the release valve anti-clockwise).
- Step 3:** Remove the oil fill bung fully from the hydraulic ram.
- Step 4:** Lay the hydraulic ram on its side and drain the oil into a suitable container.
- Step 5:** Return the hydraulic ram to an upright position.
- Step 6:** Fill with hydraulic oil until the oil starts to seep out of the oil fill hole.
- Step 7:** Wipe away any excess oil.
- Step 8:** Refit the oil fill bung and refit back onto the engine crane.



Note: Contact your local authority on how / where to dispose of the waste oil.

LUBRICATION

A periodic coating of light lubricating oil to pivot points, axles and hinges will help to prevent rust and assure that the castors and hydraulic ram move freely.

CLEANING

Periodically check the hydraulic ram piston for signs of rust or corrosion. Clean as needed and wipe with an oily cloth.



Note: Never use sandpaper or abrasive material on these surfaces.

OPERATING INSTRUCTIONS...cont

Step 4: On the bottom of the hydraulic ram there is a release valve, put the ram handle onto the release valve and turn it fully clockwise to close it.

Step 5: Insert the ram handle into the slot on the bottom of the hydraulic ram and pump repeatedly until the engine has been lifted to the desired height and is clear of any obstructions.

Step 6: Move the engine to a secure location, insert the ram handle onto the release valve and slowly turn anti-clockwise, this will lower the boom.

FOLDING THE CRANE



Danger: Never try to fold the engine crane whilst there is a load still attached, this is extremely dangerous, it may result in personal injury and/or property damage.

Step 1: Ensure the hydraulic ram is in its lowest position.

Step 2: Remove both r-pins from the front lock pins on the base/leg then remove the lock pins (**note:** leave both rear lock pins in place, do not remove them).

Step 3: Raise one leg so it rests against the base, insert the front lock pin into the centre hole of the base, refit the r-pin.

Step 4: Repeat for the other leg.

MAINTENANCE

BLEEDING THE AIR

If air gets into the hydraulic system the hydraulic ram will not operate correctly and will need to be bled. To bleed air from the hydraulic system, follow the instructions below.

Step 1: Place the ram handle onto the release valve at the bottom of the hydraulic ram, turn anti-clockwise to lower it.

Step 2: Remove the oil fill bung on the side of the hydraulic ram and check the oil level, top up if necessary.

Step 3: Apply downward pressure on the boom and pump the ram handle quickly several times.

Step 4: Re-check the oil level and top up if necessary.

Step 5: Refit the oil fill bung and turn the release valve clockwise to close it.

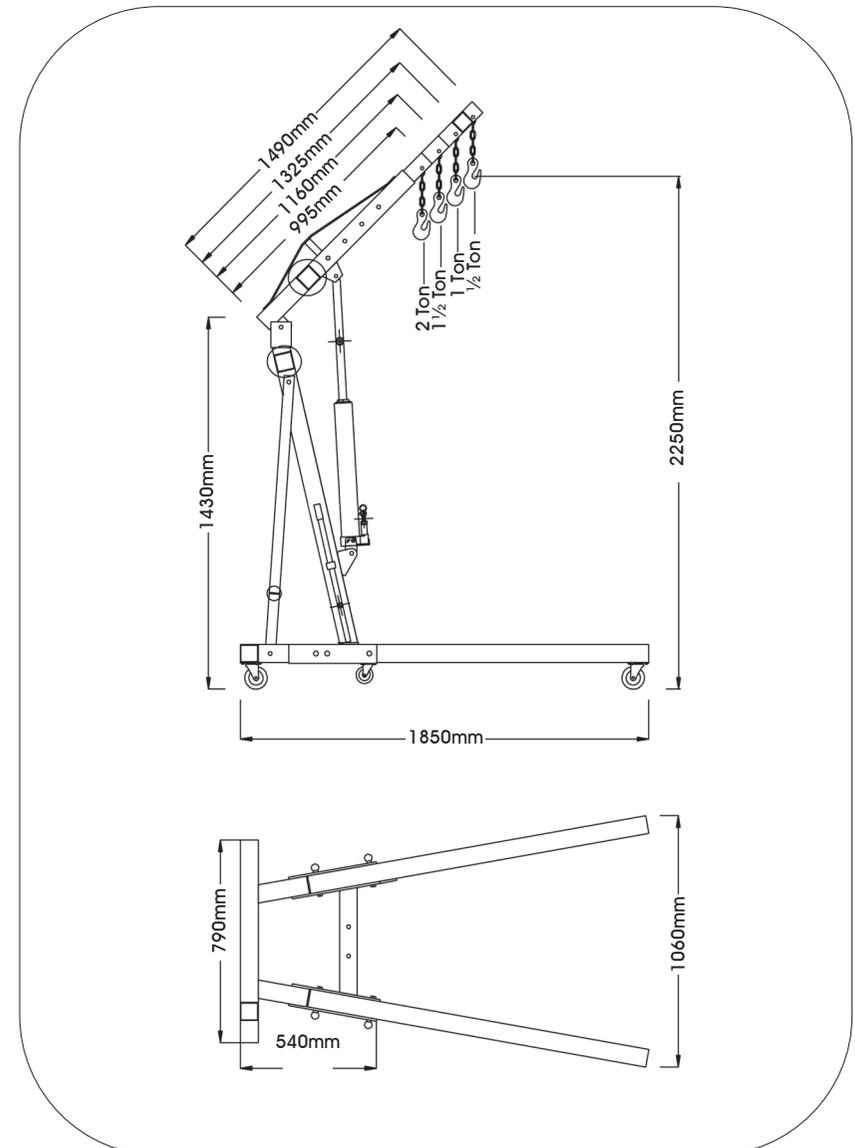
Step 6: Raise and lower the hydraulic ram several times to make sure it operates correctly before attempting to lift a load.

ADDING OIL



Recommended Oil - ISO 15
Oil Capacity - 1407ml (approximately)

TECHNICAL SPECIFICATIONS 03687



Maximum Capacity	2 Ton
Lift Position Capacities	1/2, 1, 1 1/2 & 2 Ton
Oil Type	ISO 15
Oil Capacity (approximately)	1407ml

GETTING TO KNOW YOUR ENGINE CRANE



Ref. No.	Description	Ref. No.	Description
1.	3 1/2" Castor	8.	Post
2.	3" Castor	9.	Boom
3.	Leg	10.	Boom Extension
4.	Lock Pin	11.	Chain (c/w hook)
5.	Base	12.	Oil Fill Bung
6.	Ram Handle	13.	Hydraulic Ram
7.	Support		

OPERATING INSTRUCTIONS

PRE-OPERATION CHECKS

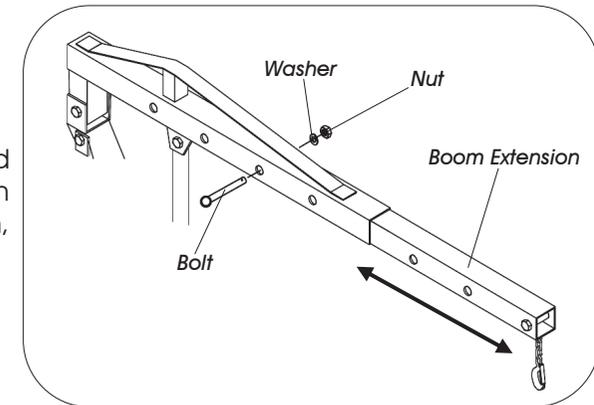
Inspect before each use. Do not use if broken, bent, cracked or damaged parts are noted. If the engine crane appears damaged in any way, or operates abnormally it should be removed from service immediately. If the engine crane has been or suspected to have been subjected to a shock load (a load dropped suddenly, unexpectedly upon it), immediately discontinue use until the engine crane has been checked by an authorised service centre / agent (contact your distributor or manufacturer for list of authorised service centres). It is recommended that an annual inspection be done by a qualified person/s.



Note: Before each use, check the oil level and thoroughly test the hydraulic ram before applying a load. If it does not work properly it may need to be bled. See the maintenance page on how to bleed it.

USING THE ENGINE CRANE

Step 1: Remove the bolt, washer and nut and move the boom extension to the desired lifting weight position, refit the bolt, washer and nut.



Note: Ensure that the position selected is higher than the weight you will be lifting, i.e. select 2 ton for a load that is over 1.5 ton but less than 2 ton.



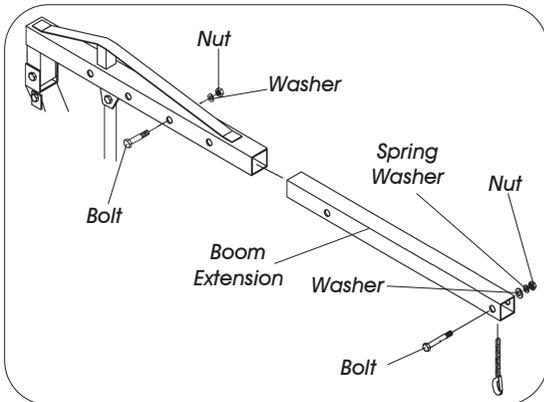
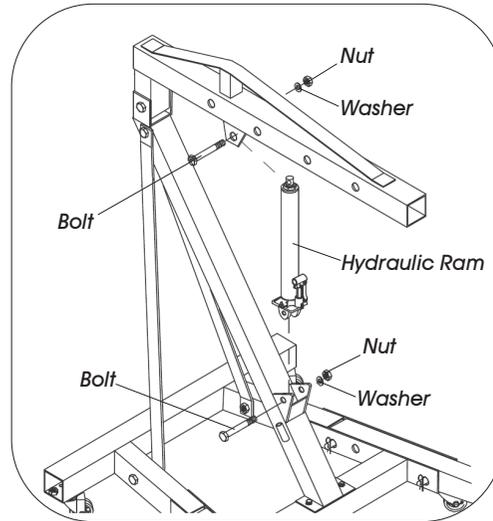
Danger: Always be aware of the possibility of a load slipping off the hook, use common sense and watch what you are doing at all times. Remember that if the engine falls from the crane it can cause serious injury.

Step 2: Position the crane so that the hook is directly above the item to be lifted.
Step 3: Attach the hook securely to the straps/chains.

ASSEMBLY INSTRUCTIONS...cont

Step 9: Fit the bottom of the hydraulic ram between the slot on the lower post (see right), secure by using 1x M16x90 bolt, 1x M16 washer and 1x M16 nut.

Step 10: Fit the top of the hydraulic ram between the slot on the boom (see right), secure by using 1x M16x80 bolt, 1x M16 washer and 1x M16 nut.



Step 11: Slide the boom extension into the boom and secure using 1x M14x100 bolt, 1x M14 washer and 1x M14 nut. Attach the chain c/w hook to the end of the boom extension by using 1x M12x80 bolt, 1x M12 washer 1x M12 spring washer and 1x M12 nut (see left).

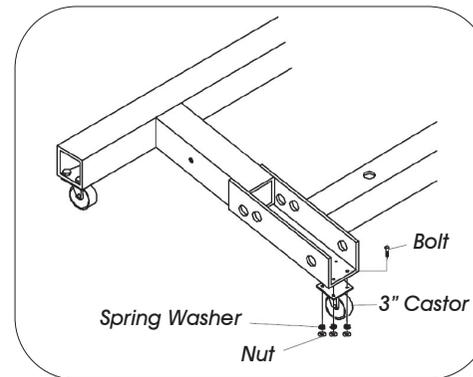
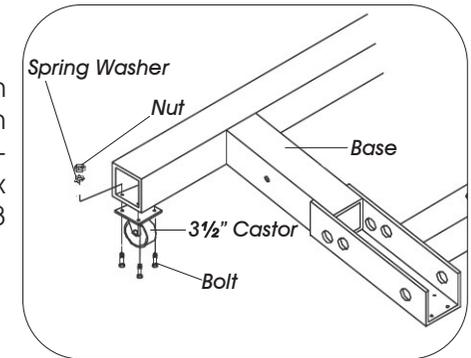
Step 12: Ensure the engine crane is level and proceed to tighten all the bolts & nuts - it is now ready for operation.

ASSEMBLY INSTRUCTIONS



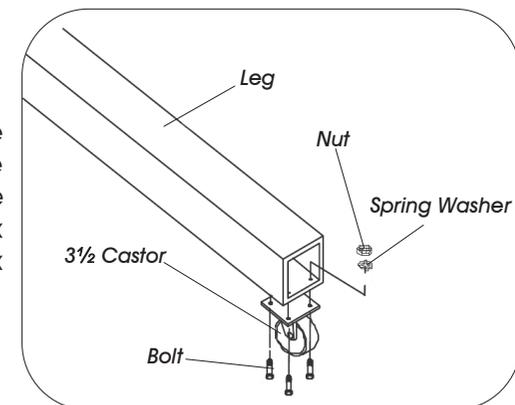
Note: Do not tighten any bolts/nuts until the assembly has finished, this will ensure that the frame lines up correctly.

Step 1: Fit one 3½" castor to the rear section of the base (see right). Align the four holes on the castor with the four holes on the underside of the base and secure by using 4x M8x18 bolts, 4x M8 spring washers and 4x M8 nuts; Repeat for the opposite side.

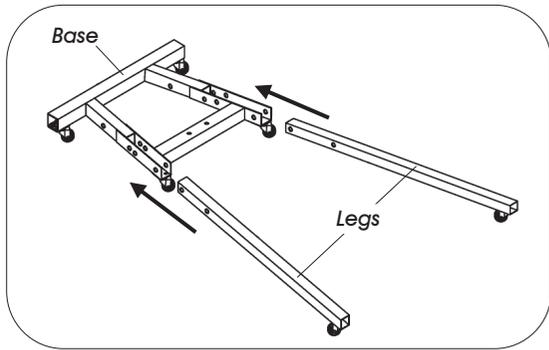


Step 2: Fit one 3" castor to the front of the base (see left). Align the four holes on the castor with the four holes on the underside of the base and secure by using 4x M8x16 bolts and 4x M8 spring washers and 4x M8 nuts; Repeat for the opposite side.

Step 3: Fit one 3½" castor to the end of the leg (see right). Align the four holes on the castor with the four holes on the underside of the leg, secure in place by using the 4x M8x16 bolts, 4x M8 spring washers and 4x M8 nuts; Repeat for the other leg.

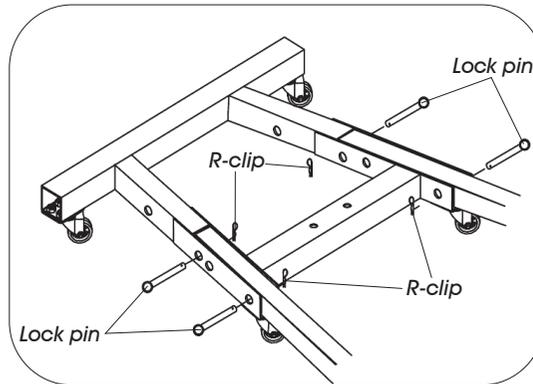


ASSEMBLY INSTRUCTIONS...cont

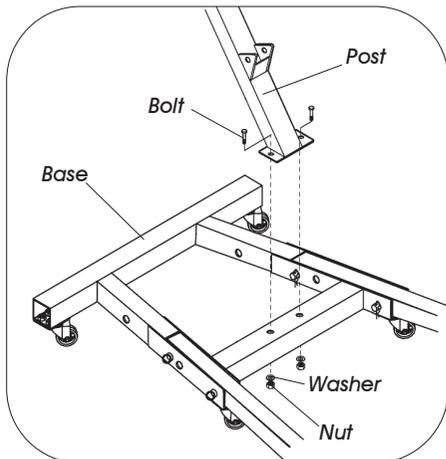


Step 4: Slide both legs into the base.

Step 5: Secure both legs in place by lifting the front of the base until the holes line up; Insert the lock pins, repeat for the other 3 lock pins. Push the r-clips through the small holes at the end of each lock pin to ensure they cannot fall out.



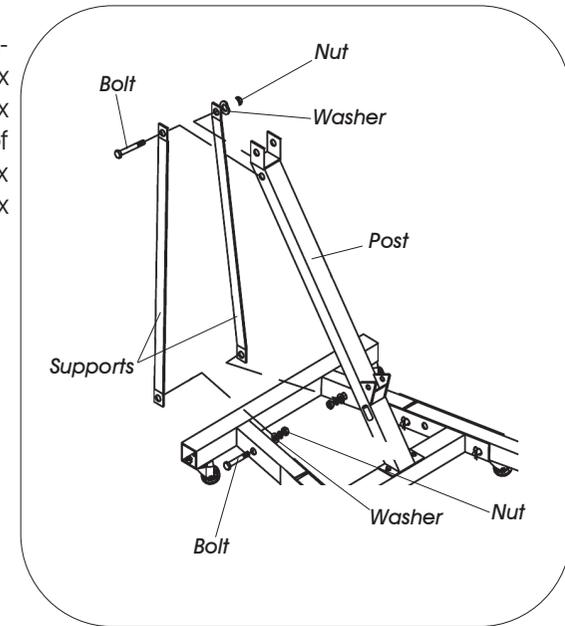
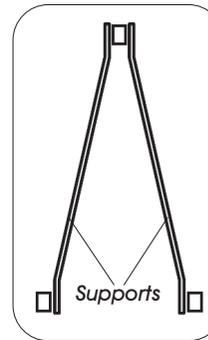
Note: Ensure all four lock pins and r-clips are fully secured before carrying on with the assembly.



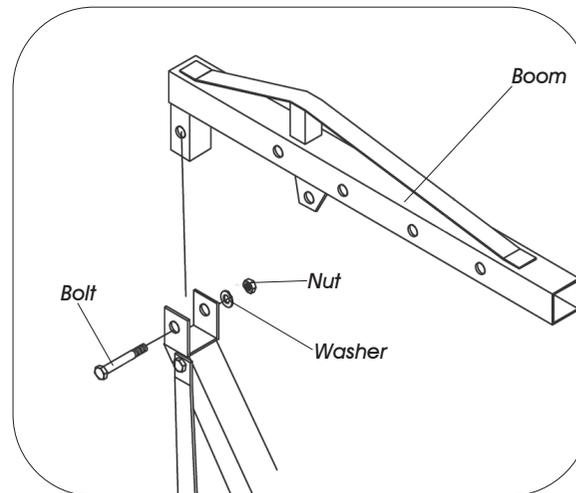
Step 6: Fit the post to the base and secure in place using 2x M14x100 bolts, 2x M14 washers and 2x M14 nuts.

ASSEMBLY INSTRUCTIONS...cont

Step 7: Secure the supports to the inside of the base by using the 2x M16x100 bolts, 2x M16 washers and 2x M16 nuts. Next, secure the top end of the supports to the post by using 1x M16x110 bolt, 1x M16 washer and 1x M16 nut to secure.



Note: The supports bend outwards at the top and inwards at the bottom (see diagram above left).



Step 8: Place the boom between the slots on top of the post, use 1x M16x110 bolt, 1x M16 washer and 1x M16 nut to secure.