NATIONAL MACHINERY

INSTRUCTIONS FOR:
FOLDING CRANE
Models: **NC10.V2 & NC20**

Thank you for purchasing this product. The crane is designed for removing engines from cars. It may be suitable for other purposes, but you are warned that these instructions, and particularly the paragraphs referring to safety, must be consulted before considering any alternative use.

⚠ ***IMPORTANT:*** **PLEASE READ THESE INSTRUCTIONS CAREFULLY. NOTE THE SAFE OPERATIONAL REQUIREMENTS, WARNINGS AND CAUTIONS. USE THE PRODUCT CORRECTLY AND WITH CARE FOR THE PURPOSE FOR WHICH IT IS INTENDED. FAILURE TO DO SO MAY CAUSE DAMAGE AND/OR PERSONAL INJURY AND WILL INVALIDATE THE WARRANTY. PLEASE KEEP INSTRUCTIONS SAFE FOR FUTURE USE.**

NOTE: *It is our policy to continually improve products and as such we reserve the right to alter data, specifications and component parts without prior notice.*

1. SAFETY INSTRUCTIONS

- ✓ Keep crane, and lifting slings, supports and beams, in good working order and condition. Follow the inspection requirements as described in Section 5. *Take immediate action to repair or replace damaged parts by contacting your supplier. Ensure that all accessory lifting devices are suitably certified. If crane is damaged, immediately remove from service.*
- ✓ Ensure that the surface on which the crane is used is level and firm, and capable of supporting the crane and the maximum load.
- ✓ Never use crane on tarmacadam or other soft surfaces.
- ✓ Ensure that the crane legs and boom extension are locked in position before using the crane.
- ✓ Keep children and unauthorised persons away from the work area.
- ✓ Keep work area clean and tidy and free from unrelated materials, and ensure that there is adequate lighting.
- ✓ Ensure that the load does not exceed the maximum lifting capacity of the crane. Overloading is dangerous. Where appropriate, use only the lifting points recommended by the manufacturer of the item to be lifted, i.e. vehicle engine.
- ✓ Before lifting the load ensure that the crane boom is in the lowest possible position, that there are no obstacles which may snag the load whilst it is being lifted and that the area above the boom is clear.
- ✓ To avoid injury, be fully aware of your own and other persons location in relation to the lifting and lowering of the load.
- ✓ Keep a sound footing and balance and wear non-slip shoes.
- ✓ Ensure that the centre of gravity always remains inside the crane base.
- ✗ DO NOT harness the load at an angle and do not allow the load to swing during lifting.
- ✗ DO NOT allow load to drop suddenly. Lower with care and ensure that you are aware of the condition of the surface onto which load is to be lowered.
- ✗ DO NOT load beyond rated capacity for each specified boom position as indicated in Section 2. The capacity reduces as boom is extended.
- ✗ DO NOT position any part of your body beneath the load and do not climb on the crane.
- ✗ DO NOT use the crane to transport the load. The crane is a lifting device only.
- ✗ DO NOT pull crane sideways when loaded.
- ✗ DO NOT attempt to adjust the safety valve, as this has been set and sealed by the manufacturer.
- ✗ DO NOT use this product to perform a task for which it is not designed.
- ✗ DO NOT use whilst tired or under the influence of drugs, alcohol or intoxicating medication.
- ✓ When not in use, store the crane, with the boom fully lowered, in a safe, dry, childproof, area.

▲ DANGER! WHEN FULLY LOWERING THE BOOM TAKE CARE NOT TO TRAP FINGERS BETWEEN RAM BODY AND RAM STOP.
❐ WARNING: Failure to heed safety instructions and warnings may result in damage and/or personal injury, and will invalidate the warranty.

2. SPECIFICATIONS

	NC10.V2	NC20
Max. lift @ min. boom extension: mm	1870	1930
Max. lift @ max. boom extension: mm	2075	2355
Height (max) of frame: mm	160	190
Length (max) of frame: mm	1280	1830
Width (max) of frame: mm	960	1070
Overall height (stowed): mm	1400	1610
Width inside frame (max): mm	860	920
Distance between rear wheel centres: mm	580	705

	NC10.V2	NC20
Lifting capacity, position 1: kg	1000	2000
Lifting capacity, position 2: kg	750	1500
Lifting capacity, position 3: kg	500	1000
Lifting capacity, position 4: kg	250	500
Length of boom, position 1: mm	880	970
Length of boom, position 2: mm	970	1150
Length of boom, position 3: mm	1060	1330
Length of boom, position 4: mm	1150	1510

3. ASSEMBLY

Note: Numbers in brackets refer to item numbers as shown in the relevant parts diagram.

3.1. Model NC10.V2

3.1.1. Fit the two legs (2 & 3) to the base (1) and retain with lock pins (4) and split pins (5).
3.1.2. Attach the post (8) to the base (1) with bolts (9) and washers and nuts (10).
3.1.3. Attach the boom (11) to the post (8) using bolt (12), washer (13) and nut (14).
3.1.4. Fit the ram (15) to the post (8) using bolt (16) and washer and nut (17) and attach the boom (11) to the top of the ram (15) using bolt (18) and washer and nut (17).
3.1.5. Slide the boom extension (22) into the boom (11) and locate with pin (9) retained with safety clip (10), at one of the four positions.
3.1.6. Fit the hook and chain (24) to the boom extension (22) using bolt (23) and washer and nut (26).
3.1.7. Use bolts (21) and washers (20) to attach the handle (19) to the post (8).

3.2. Model NC20

3.2.1. Fit the castor wheels (24) to the base (21) using bolts (25), washers (23) and nuts (22).
3.2.2. Fit the two legs (30) to the base (21) and retain with pins (26) and lock pins (27).
3.2.3. Attach the post (14) to the base (21) with bolts (5), washers (12) and nuts (13).
3.2.4. Fit the support straps (17) between post (14) and base (21) using bolts (5) at the base and bolt (16) at the post with washers (12) and nuts (13).
3.2.5. Attach the boom (8) to the post (14) using bolt (15), washer (12) and nut (13).
3.2.6. Fit the ram (19) to the post (14) using bolt (20), washer (12) and nut (13) and attach the boom (8) to the top of the ram (19) using bolt (11), washer (12) and nut (13).
3.2.7. Slide the boom extension (6) into the boom (8) and locate with pin (7) retained with safety clip (10), at one of the four positions.
3.2.8. Fit the hook and chain (1) to the boom extension (6) using bolt (2), washer (4) and nut (3).

4. OPERATION

❒ **WARNING! Ensure that you read, understand and apply Section 1 Safety Instructions.**

4.1. Before first use

4.1.1. Open the return valve by turning anticlockwise and then operate the pump several times. This will purge any air that may have entered the hydraulic system during transit.

4.1.2. Pull crane boom up slightly, close the return valve firmly, but do not over-tighten, and again pump the handle. The boom will now rise. Pump the boom all the way up and then lower it by opening the return valve (this will confirm that there is sufficient oil in the ram).

4.2. Use

4.2.1. Pump up the boom to the height at which the load may be secured and adjust the boom extension as necessary.

4.2.2. Connect the crane hook to the load using a suitable certified sling or support beam. Ensure that you are aware of the load weight, and check that it is within the capacity of the crane at the boom extension you are using. In the case of engines use only lifting points recommended by the vehicle manufacturer.

4.2.3. Lift only directly above the load. ❒ ***WARNING! DO NOT LIFT THE LOAD AT AN ANGLE!***

4.2.4. To lower load, open the return valve by very carefully turning it anticlockwise. The speed of decent is controlled by how far the valve is opened.

4.2.5. The crane is not a transportation device but may be used to reposition the load ready for working on. To do so, lower the load and boom to the lowest possible point before attempting to move the crane. DO NOT attempt to move it sideways.
The crane is not designed to sustain the load indefinitely.
When you have positioned the load for working, fully lower the load onto a secure work surface, being fully aware of your location, and that of others, in relation to the lowering load.

4.2.6. When the load has been secured, remove the lifting harness etc. and place the crane in a safe location with the boom fully lowered.

5. MAINTENANCE

NOTE: The crane MUST be maintained in accordance with these instructions.

5.1. Lubrication

5.1.1. Oil all working parts monthly.

5.1.2. The ram is filled with oil and should only require occasional topping up. *DO NOT use brake fluid*, as this will damage the hydraulic seals, use only good quality hydraulic jack oil. Proceed as follows:

With the ram fully retracted and vertical, remove the filler plug. Oil level should be up to the filler hole. Add or drain oil as necessary.

5.2. Inspection of crane before use

5.2.1. Before each use of the crane you must make a visual inspection of the crane for leaks, damage, loose or missing parts.

5.2.2. The crane must be inspected immediately if it has been subject to an abnormal load or shock.
It is recommended that such an inspection is made by the supplier's authorised service agent.

5.2.3. The owner and/or operator must be aware that repair of this equipment will require specialised knowledge and facilities.
It is recommended that an annual inspection of the crane is made by the supplier's authorised service agent.

5.3. Storage

Always store the crane with the boom is in the lowest position and the ram closed. Keep the crane clean and dry.

6. OWNER'S & OPERATOR'S RESPONSIBILITIES

The owner and/or operator shall study these product instructions and retain them for future use.

6.1. Understanding Instructions & Warnings

The owner and/or operator shall understand the product operating instructions and warnings before operating the crane. Warning information must be emphasised and understood. If the operator is not fluent in English, the owner must read the product instructions and warnings to the operator, in the operator's native language, and discuss them, making sure that the operator understands the content.

6.2. Damaged cranes

Any crane which appears to be damaged or badly worn, or which operates abnormally MUST BE REMOVED FROM SERVICE. It is recommended that necessary repairs be made by the supplier's authorised service agent.

6.3. Decommissioning

Through years of normal wear, the crane will eventually come to the end of its safe serviceable life. If, and when, this happens, ensure that the hydraulic oil is drained off and disposed of in accordance with local authority regulations.

6.4. Test Certificate

According to requirements of the UK Health and Safety Executive, a test certificate is packed with this crane. The test certificate is valid for one year from the date of first placing the crane into use. Your insurance company will want to have a copy of the test certificate for their file. Additional copies of the test certificate can be purchased within one year of the date of supply. If you need a copy please ask your dealer. After one year your insurance company has the right to request a re-test of the crane. This is a chargeable service and can be obtained by contacting companies listed under "Lifting Gear" in Yellow Pages.

7. GUARANTEE

Your crane is guaranteed for one year from the date of purchase. The guarantee does not cover faults caused by incorrect use, lack of maintenance or accidental damage. Nor does it cover damage caused to third parties through misuse. You are recommended to inform your insurers and check that adequate cover is in place. Warranty claims must be supported by a copy of the dated receipt for goods.

8. DECLARATION OF CONFORMITY

Folding Crane. Models NC10.V2 & NC20

98/37/EC, Docks regulations 1934, 18a 22a EN292-2

Model No:	NC10.V2	NC20
Serial No:		
Batch No:		

Declaration of Conformity We, the sole importer into the UK, declare that the products listed here are in conformity with the following standards and directives.

CE The construction files for these products are held by the Manufacturer and may be inspected, by a national authority, upon request to National Automotive Machinery Ltd.

For National Automotive Machinery Ltd. N.Sykes 21st january 2004

NATIONAL MACHINERY

HEALTH AND SAFETY EXECUTIVE

Health & Safety at Work Act 1974. Docks Regulations 1934, regulations 18(a) & 22(a) SR & O 1934 No 279. Form prescribed by the Secretary of State for

CERTIFICATE OF TEST AND EXAMINATION OF CRANES OR HOISTS AND THEIR ACCESSORY GEAR, BEFORE BEING TAKEN INTO USE.

MODEL NUMBER DESCRIPTION OF CRANE OR HOIST AND SERIAL NO (IF ANY).	FOR JIB CRANES, RADIUS AT WHICH THE PROOF LOAD WAS APPLIED	SAFE WORKING LOAD (FOR JIB CRANES AT RADIUS SHOWN)	PROOF LOAD APPLIED
FOLDING CRANE FOR VEHICLE ENGINE REMOVAL PURPOSES **MODEL NUMBER: NC10.V2** **SERIAL NUMBER:**	MM 880 970 1060 1150	KG 1000 750 500 250	KG 1250 938 625 313
FOLDING CRANE FOR VEHICLE ENGINE REMOVAL PURPOSES **MODEL NUMBER: NC20** **SERIAL NUMBER:**	MM 970 1150 1330 1510	KG 2000 1500 1000 500	KG 2500 1875 1250 625

Company conducting the test:

This test was commissioned by National Automotive Machinery Ltd. and was undertaken by the manufacturer and holder of the construction file. This certificate is signed by the Chief Engineer for the manufacturer.

We hereby certify that the Crane or Hoist and accessory gear covered by this test certificate has been tested to 25% overload and the safety valve has been set at the rated working capacity. Product liability insurance is in effect within the U.K. through the Axa Insurance Company, Policy Number NHCOM 1193182.

Engineer Conducting Test:.....Chief Engineer

Date:.....