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QUALITY GUARANTEE & WARRANTY

KENNEDY TOOLS carry a one year manufacturers warranty.

KENNEDY TOOLS are designed & manufactured to the highest standards & specifications.

Assuring the quality and performance required by all sectors of industry.

KENNEDY TOOLS are fully guaranteed against faulty materials & workmanship.

Should they be found to be defective, they will either be repaired or replaced free of charge (fair wear and tear and/or misuse excepted).
This does not affect your legal rights.

Please retain supplier invoice as proof of purchase.

E C MACHINERY DIRECTIVE 2006/42/EC
DECLARATION OF CONFORMITY

We hereby certify that the KENNEDY Hydraulic Equipment:

Hand Pumps HPT035, HPT070, HPT250, HPS035 & HPS060
Push Rams HRP004 & HRP010
Pull Ram HRP005
Spreader Ram Order Code KEN-567-8240K

comply with all the relevant provisions of the EC Directive 2006/42/EC (The Machinery Directive of the Council of European Communities)

Harmonised Standards Applied: EN ISO 4413:2010 DIN EN ISO 12100

Manufactured for
KENNEDY TOOLS
Wigston Works, Leicester, England, LE18 2FS.

www.kennedy-tools.co.uk

Supplied by an ISO9001 approved company.

Signed:
Date: 30th March 2012
Name: Keith Read
Position: HSQE Manager.

CE



QUALITY KENNEDY AUTOMOTIVE PRODUCTS AVAILABLE FROM YOUR DISTRIBUTOR

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KENNEDY®
QUALITY INDUSTRIAL TOOLING

HYDRAULIC PUMPS & RAMS

- Rugged construction.
- Quick connecting couplers for a fast set up.





- Internal overload valve prevents it from being used beyond its rated capacity.
- Carrying handles for easy portability.
- Single and twin speeds available.
- Operates in a vertical and horizontal position.
- 10,000psi working pressure.

- Heavy duty return spring.
- Chrome plated piston inhibits rusting.
- Accessories easily snap on.



- For bending, straightening and pulling.
- Has a heavy duty swivel hook on each end.

CE

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INSTRUCTION MANUAL

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KENNEDY thoroughly recommends reading these instructions before using the Hydraulic Equipment even if you have used Hydraulic Equipment before. Reading these instructions carefully and understanding them fully will enable you to perform collision repair on a vehicle correctly and will prevent injury to yourself or someone else as well as prevent damage to the vehicle and equipment.

SAFETY GUIDELINES

GENERAL
- Always use approved eye and face protection. If necessary also wear protective gloves.
- Always keep children and unauthorised people away from the work area.
- Always store in a secure, dry place, out of reach from children.
- Always stay alert at all times.
- Always wear proper clothing.
- Always inspect tools before each use.
- Always keep tools away from heat.
- Always ensure tools are used by qualified mechanics who are familiar with its use.
- Never operate tools if any parts are missing, damaged or faulty.
- Never operate tools when you are tired, under the influence of alcohol, drugs or intoxicating medication.
- Never force tools.
- Never overreach.
- Never stand on tools.
- Never allow tools to get wet or remain in a damp environment.

HYDRAULIC EQUIPMENT
- Always replace the dust caps back onto the couplings after use.
- Always refill with hydraulic fluid only, making sure no dirt gets into the hydraulic system. Do not mix different types of oil or use brake fluid.

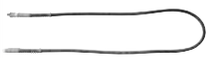
HAND PUMPS
- Always bleed the hand pump before use, to release any trapped air.
- Always release the pressure from the pump when not in use.
- Never modify in any way.
- Never carry the pump by the hose.

PUSH & PULL RAMS
- Always make sure the lift point is stable and properly centred on the ram.
- Never exceed the the rated capacity.
- Never work under loads which are supported only by hydraulic equipment. Use additional mechanical supports.
- Never use extreme heat to disassemble.

HOSES
- Always inspect the hose each time before use.
- Always replace hydraulic hoses within 10 years, even if no defects are detected.
- Always ensure all hose connections are tightened and are not leaking. Do not overtighten the hose, as this could cause premature thread failure or high pressure fittings to split at pressures lower than their rated capacities.
- Never grasp a leaking pressurised hose with your hands. The force of escaping fluid could cause serious injury.
- Never drop any heavy objects onto the hose, allow it to kink, twist, curl, crush or bend so tightly that the fluid flow within the hose is blocked or reduced.
- Never subject the hose to potential hazards such as fire, sharp surfaces, extreme heat or cold.
- Never allow the hose to come into contact with corrosive materials, such as creosote-impregnated objects and some paints as hose deterioration can occur.

KENNEDY HYDRAULIC ACCESSORIES

	4 TONNE 22mm Bore Diameter	10 TONNE 33mm Bore Diameter
 Extension Tube	100mm (4”) KEN-567-8280K	125mm (5”) KEN-567-8420K
 Extension Tube	200mm (8”) KEN-567-8290K	250mm (10”) KEN-567-8430K
 Extension Tube	305mm (12”) KEN-567-8300K	355mm (14”) KEN-567-8440K
 Extension Tube	410mm (16”) KEN-567-8310K	480mm (19”) KEN-567-8450K
 Double Ended Male Snap Connector	KEN-567-8320K	KEN-567-8460K
 Flat Base	114x63mm KEN-567-8330K	150x95mm KEN-567-8470K
 90° “V” Base	KEN-567-8340K	KEN-567-8480K
 Wedge Head	KEN-567-8350K	KEN-567-8490K
 Spreader Plunger Toe	KEN-567-8360K	KEN-567-8500K
 Spreader Ram Toe	KEN-567-8370K	KEN-567-8510K
 Rubber Head	67mm Ø KEN-567-8380K	75mm Ø KEN-567-8520K
 Serrated Saddle	35mm KEN-567-8390K	46mm KEN-567-8530K

 150cm/5ft hose with fitted coupler. 1/4” NPT at both ends. Suitable for single speed hand pumps.	KEN-567-8120K
 150cm/5ft hose with fitted coupler. 3/8” NPT at pump and 1/4” NPT at ram. Suitable for twin speed hand pumps.	KEN-567-8140K

TROUBLE SHOOTING - RAMS Continued

FAULT	POSSIBLE CAUSE	SOLUTION
Ram piston extends slower than normal.	1. Loose couplers. 2. Restricted hydraulic line or fitting. 3. Pump not working correctly. 4. Ram seals leaking.	1. Tighten couplers. 2. Clean and replace if damaged. 3. Repair or replace as necessary. 4. Replace worn seals. Look for excessive contamination or wear.
Ram does not hold pressure.	1. Leaky connection. 2. Ram seals leaking. 3. Pump or valve not working correctly.	1. Clean, reseal with thread sealant and tighten connection. 2. Replace worn seals. Look for excessive contamination or wear. Replace contaminated oil. 3. Repair or replace as necessary.
Ram leaks hydraulic oil.	1. Worn or damaged seals. 2. Loose connection.	1. Replace worn seals. Look for excessive contamination or wear. Replace contaminated oil. 2. Clean, reseal with thread sealant, and tighten connection.
Ram will not retract or retracts slower than normal.	1. Pump release valve closed. 2. Loose couplers. 3. Blocked hydraulic lines. 4. Weak or broken retraction springs. 5. The ram is damaged internally. 6. The pump reservoir is too full.	1. Open the pump release valve. 2. Tighten the couplers. 3. Clean and flush the lines. 4. Send to a service centre for repair. 5. Send to a service centre for repair. 6. Drain the oil to the correct level.

REPAIRS

To prevent personal injury, release the pump pressure and disconnect the hose from the pump before making any repairs. Repairs must be performed in a dirt-free environment by a qualified person who is familiar with this type of equipment.

Resealing:

Use an approved, high grade pipe thread sealant to seal all hydraulic connections. PTFE Teflon tape (KEN-983-9000K) can be used, making sure it is applied carefully (two threads back) to prevent the tape from being pinched by the coupler and broken off inside the pipe end. Any loose pieces of tape could travel through the system and obstruct the flow of fluid or cause the jamming of precision fitted parts.

SPARES

Repair kits containing washers, "O" rings and seals:



HAND PUMPS

KEN-503-8900K Twin speed 350cc capacity. (repair kit KEN-567-8080K)
KEN-503-8940K Twin speed 700cc capacity. (repair kit KEN-567-8090K)
KEN-503-8960K twin speed 2500cc capacity. (repair kit KEN-567-8100K)
KEN-503-8800K Single speed 350cc capacity. Used with the 4 tonne Repair Kit (KEN-503-7240K). (repair kit KEN-567-8050K)
KEN-503-8820K Single speed 600cc capacity. Used with the 10 tonne Repair Kit (KEN-503-7260K) and the 10 tonne Bench Press (KEN-985-5000K). (repair kit KEN-567-8060K)

PUSH RAMS

KEN-503-7170K 4 tonne with 100mm/4" stroke. Used with the 4 tonne Body Repair Kit KEN-503--7240K. (repair kit KEN-567-8000K)
KEN-503-7190K 10 tonne with 150mm/6" stroke. Used with the 10 tonne Body Repair Kit KEN-503-7260K. (repair kit KEN-567-8020K)

PULL RAM

KEN-503-7180K 5 tonne with 150mm/6" stroke. (repair kit KEN-567-8010K)

SPREADER RAM

KEN-567-8240K 5 tonne with 150mm/6" stroke. (repair kit KEN-567-8250K)

BENCH PRESS

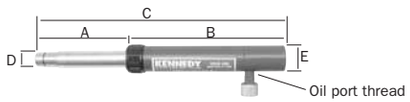
KEN-985-5000K 10 tonne. (repair kit KEN-567-8250K)

SPECIFICATIONS



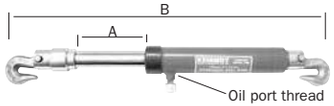
Hand pumps	Order code (KEN-503)	Model number	Pressure rating PSI (Bar)		Usable oil capacity (cc)	Oil volume per stroke (cc)		Oil port thread	A Length (mm)	Net weight (kg)
			Stage 1	Stage 2		Stage 1	Stage 2			
	-8800K*	HPS035	10,000 (700)	- -	350	3.2	-	1/4 NPT	292	5.7
	-8820K**	HPS060	10,000 (700)	- -	600	3.2	-	1/4 NPT	478	7.1
	-8900K	HPT035	200 (13.8)	10,000 (700)	350	7.0	1.0	3/8 NPT	310	5.3
	-8940K	HPT070	200 (13.8)	10,000 (700)	700	13.0	2.8	3/8 NPT	528	8
	-8960K	HPT250	200 (13.8)	10,000 (700)	2500	13.0	2.8	3/8 NPT	632	12

* The same hand pump is used on the 4 tonne Kennedy Repair Kit (KEN-503-7240K).
** The same hand pump is used on the Kennedy Bench Press (KEN-985-5000K) and on the 10 tonne Kennedy Repair Kit (KEN-503-7260K).



Push rams	Order code (KEN-503)	Model number	Capacity (Tonne)	A Stroke (cm)	Oil cap (cc)	Cylinder Bore dia. (mm)	B Length (mm)		D Outside dia. (mm)		Oil port thread	Net weight (kg)
							Retracted	Extended	Piston	Ram		
	-7170K*	HRP004	4	10	65	28.5	230	330	22	38	1/4 NPT	1.8
	-7190K**	HRP010	10	15	243	45	325	475	33	57	1/4 NPT	5.3

* The same push ram is used on the 4 tonne Kennedy Repair Kit (KEN-503-7240K).
** The same push ram is used on the 10 tonne Kennedy Repair Kit (KEN-503-7260K).



Pull ram	Order code (KEN-503)	Model number	Capacity (Tonne)	A Stroke (cm)	Cylinder Bore dia. (mm)	B Overall length (mm)	Oil port thread	Net weight (kg)
	-7180K	HRP005	5	15	34	740	1/4 NPT	6.7



Spreader ram	Order code (KEN-567)	Model number	Capacity (Tonne)	Oil port thread	Net weight (kg)
	8240K	-	1/2	1/4 NPT	1.7

1 tonne (metric ton or t) = 1000Kg

1 ton (imperial ton) = 2240lbs (1016Kg)

PLEASE NOTE The load capacity of the hydraulic ram is affected when extension rods are used. Please see "APPLICATIONS AND LOAD CAPACITY" on page 4 for details.

INSPECTION

Before each use, please inspect the hydraulic equipment for the following:

1. A cracked or damaged cylinder.
2. Excessive wear, bending, damage or insufficient part engagement.
3. Leaking hydraulic fluid.
4. A scored or damaged piston rod.
5. Swivel heads and caps not functioning correctly.
6. Loose bolts.
7. Damaged or incorrectly assembled accessory equipment.
8. Modified, welded or altered equipment.
9. Bent or damaged couplers or port threads.

SETTING UP

Remove the dust covers from the hydraulic ports. Clean the area around these ports if necessary. Clean all hose ends, couplers and union ends. Connect all hose assemblies to the pump and cylinder (sealing tape may have to be used - See REPAIRS on page 6 for further information). Tighten securely but do not over tighten.

OPERATING

BLEEDING THE SYSTEM:

Air can accumulate in the hydraulic system during the initial setup or after prolonged use, causing the ram to respond slowly or in an unstable manner. To remove the air, please follow these steps.

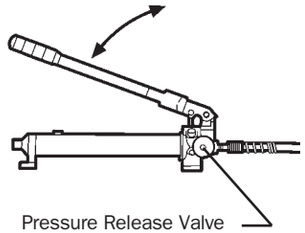
1. Place the ram at a lower level than the pump, with the piston end pointing down.
2. Extend and retract the ram several times without putting a load on the system. Air will be released into the pump reservoir.
3. With the ram fully retracted, the pump sitting level and no pressure in the hydraulic system, remove the pump's filler screw.
4. Pump the handle 5 or 6 times to bleed air out of the system.
5. Close the pressure release valve.
6. Replace the filler plug screw.

USE:

To pressurise the hydraulic hand pump, turn the release valve on the side of the pump clockwise to close the valve. Then pump the handle up and down.

To release pressure, open the valve by turning the release valve anti-clockwise.

The hand pump can be used in any position. When using the hand pump in a vertical position, always ensure that the hose end is facing downwards.



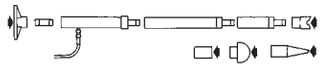
Pressure Release Valve

APPLICATIONS AND LOAD CAPACITY

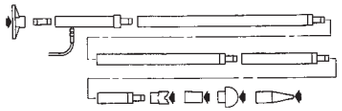
Adding two extension rods to the hydraulic ram will make the capacity reduce by 50%. When the load is off centre the capacity will be reduced by a further 50% and each additional single extension will reduce the capacity by a further 50%. If connecting more than two extensions together, ensure that the short extension is positioned the furthest away from the hydraulic ram.



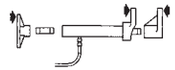
100% of ram capacity



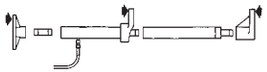
50% of ram capacity



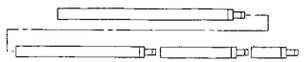
25% of ram capacity



50% of ram capacity



25% of ram capacity

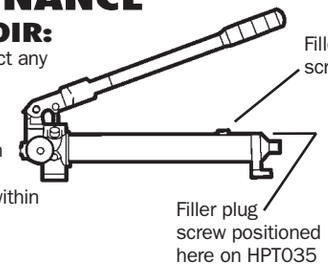


6% of ram capacity

CARE & MAINTENANCE

CHECKING & FILLING THE OIL RESERVOIR:

1. Place the hydraulic hand pump on a level surface and disconnect any attachment from the end.
2. Always follow the precautions advised by the oil manufacturer.
3. Open the pressure release valve.
4. Remove the filler plug from the cylinder. The oil should be within 15mm from the top of the reservoir.
   If necessary, fill with hydraulic oil **ISO VG.22.32** until the oil is within 15mm from the top of reservoir. DO NOT USE BRAKE FLUID.
5. Pump the handle 5 or 6 times to expel air.
6. Screw on the filler plug.



Avoid mixing different grades of oil. After long periods of use, the oil should be replaced with new oil.

LUBRICATING:

Use light oil on all moving parts.

WHEN NOT IN USE:

Wipe clean with a slightly oiled cloth.

Store the hand pumps with the release valve open.

Store the rams in a vertical position with the rod end down in a dry, well protected area, where they will not be exposed to corrosive vapours, dust or other harmful elements.

When a ram has not been used for 3 months, it should be connected to a pump and be fully extended and then retracted to lubricate the cylinder walls, thereby reducing the potential for rust formation.

Make sure that the threaded dust cap plugs are put on to the ends of any hose, hydraulic rams and accessories, to avoid dirt from entering the system.

TROUBLE SHOOTING - PUMPS

FAULT	POSSIBLE CAUSE	SOLUTION
Pump loses pressure.	1.System components leaking.	1. Repair or replace as necessary.
Pump not delivering oil.	1. Low oil level in reservoir. 2. Seats are worn.	1. Check oil level. 2. Repair seats or replace pump body.
Pump does not reach rated capacity.	1. Low oil level in reservoir. 2. System components leaking. 3. Fluid leaking past inlet or outlet check valves.	1. Check oil level. 2. Repair or replace as necessary. 3. Repair inlet or outlet check valves, or replace high pressure piston seal.
Pump handle has 'spongy' feel.	1. Air trapped in system. 2. Too much oil in reservoir.	1. Refer to 'BLEEDING THE SYSTEM' on page 4. 2. Check oil level.

TROUBLE SHOOTING - RAMS

FAULT	POSSIBLE CAUSE	SOLUTION
Ram piston will not extend.	1. Loose couplers. 2. Low oil level in pump reservoir. 3. Ram seals leaking.	1. Tighten couplers. 2. Fill and bleed the system. 3. Replace worn seals. Look for excessive contamination or wear.
Ram system extends only partially.	1. Low oil level in pump reservoir. 2. The load exceeds the capacity of the system.	1. Fill and bleed the system. 2. Use correct equipment.

Continued on page 6