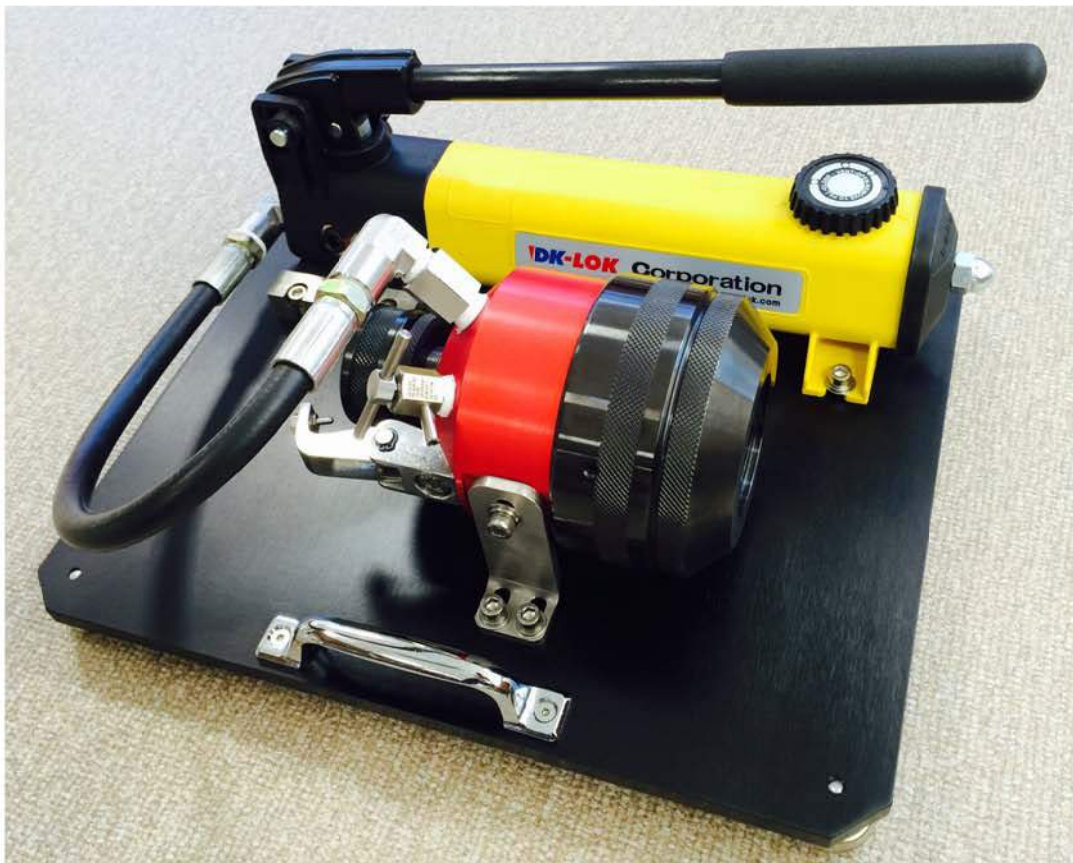


Hydraulic Swaging Unit DHS-2A Setup and Operating Instructions

Manual # DHS-2A August.2016



DK-LOK
Fittings & Valves

7, Golden root-ro 129beon-gil, Juchon-myeon, Gimhae-si
Gyeongsangnam-do, South Korea 621-842
TEL : (055) 338-0114
FAX : (055) 901-0146
<http://www.dklok.com>

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1. Safety Issues



You are duly requested to read and understand these instructions as well as the ENERPAC Instruction Sheet of the Hydraulic Hand Pump before using the DHS-2A.

Follow all safety precautions to avoid personal injury or property damage during system operation.

DK-Lok can't be responsible for damage or injury resulting from unsafe use, lack of maintenance or incorrect product and/or system operation.

Contact your authorized **DK-Lok** distributor when in doubt as to the safety precaution and operations.



WARNING!

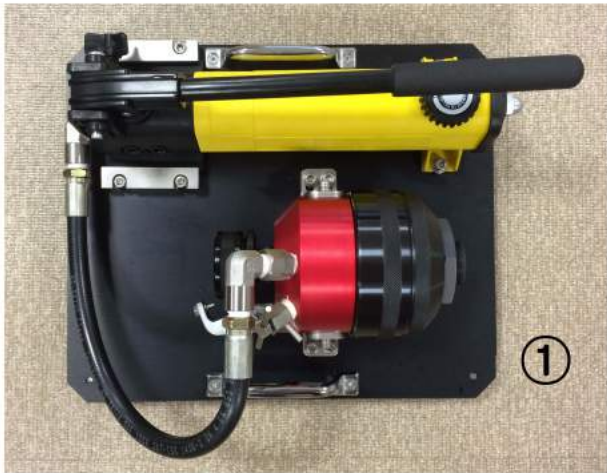
Wear proper personal protective gear when operating or working near the swaging unit.

2. Features

- Pre-swage **DK-Lok** ferrules onto tubing
- Fractional: 1/2" , 3/4" , 1" , 1-1/4" , 1-1/2" , 2"
- Metric: 12mm , 20mm , 28mm , 32mm , 38mm, 50mm
- Assure consistent makeup with only about 30% of the manual pull-up torque
- Reduce installation time
- Easy to use by one operation
- Different size can be pre-swaged just by replacing Die & Jig
- Portable with wheels on sturdy aluminum carrying case
- **Up to 1in./25mm Swaging Head**
Part No. : DHS-2HS-A (**Black Arm Gripper**)
- **1in./25mm and over Swaging Head**
Part No. : DHS-2HS-B (**Red Arm Gripper**)



3. Standard Components

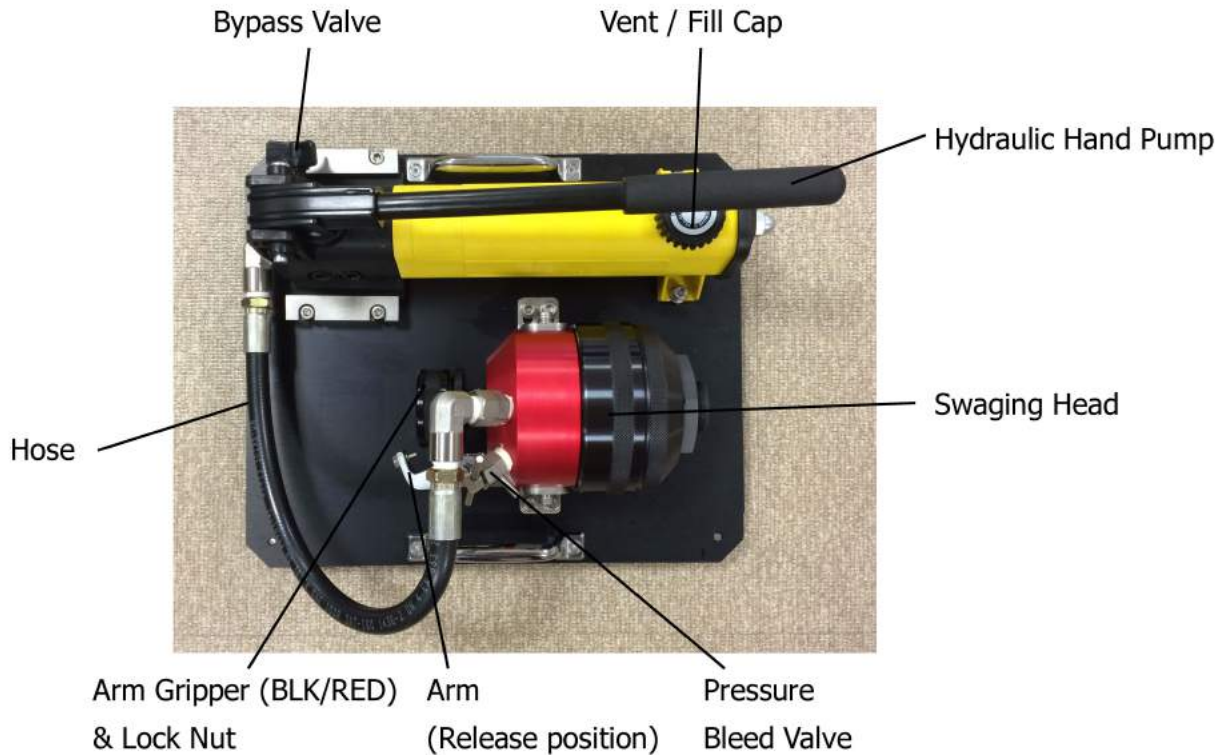


① Hydraulic Swaging Unit
(Swaging Head + Hydraulic Hand Pump)



② DJS consisting of DIE and JIG
 ③ Ratchet Wrench
 ④ Allen Key
 ⑤ DIE Fixing Bolt
 ⑥ DKLUB-0311 (Lubricant)

4. Hydraulic Swaging Unit Lay Out



5. Setup Instructions

1. Check Hydraulic Oil Level Regularly

Please refer to "7.1 Adding Oil to the Pump" of the ENERPAC Pump Instruction sheet enclosed herewith.

2. Unit setup

- 1) Open Bypass Valve



- 2) Open the Pressure Bleed Valve one turn to bleed air from the Swaging Head



- 3) Close Bypass Valve



- 4) Pump handle until pump oil is free of air bubbles, removing air from the hydraulic system will help the cylinder advance and retract smoothly.

- 5) Close Pressure Bleed Valve by finger tight



3. Swaging Head Setup

- 1) Select DJS

Note) In order to prevent deformation of the DJS, It is recommended to DKLUB-0311 applying to the surface of the DIE



- 2) Hand tighten DJS into the Swaging Head and tighten completely with a Ratchet Wrench



- 3) Lock out the DJS screwing DIE Fixing Bolt onto the Swaging Head with the Allen Key



6. Prepare Tubing

1. Check if tube O.D, wall thickness, circularity, hardness and their tolerance are within specifications for your application. Also check if surface is free from scratches and dirt.
2. Make a square cut.
3. Remove burrs from inner and outer edges of tube.



7. Operating Instructions

1. Operation

- 1) Place Swaging Head Arm in an upward position
- 2) Put the DK-Lok Nut and Ferrules on the tubing in right orientation and sequence.
- 3) Hand-tighten Nut onto the DJS making sure that the tubing is bottomed out.
- 4) While keeping the tube bottomed, rotate the swaging head or the tube left to right minimally on the tube and pump the swaging unit the ferrules grip the tube O.D disallowing any further rotary movement.
- 5) Turn Arm Gripper until the Arm Pin is held tight and lock up Arm Gripper with Lock Nut



6) Pump the handle until the Arm Pin pops off the Arm Gripper.



7) Open the Bypass Valve by pressing the Arm gently downwards to its re-operating position, and unthread the nut and remove the pre-swaged assembly



8) Fittings over 1in. or 25mm only: Lubricant must be applied when installing DK-Lok tube fittings in these sizes. A packet of lubricant is provided with the fitting. Apply the lubricant sparingly to the DK-Lok tube fitting body threads. Apply a similar amount of lubricant to the rear surface of the back ferrule.



9) Hand tighten the pre-swaged assembly into the fitting body. Hold the fitting body stable and tighten the nut 1/2 turn with a wrench.



Note) It is recommended to tighten the nut 3/4 turn when using hastelloy/duplex tubing.

Gauging Instructions

Apply DHS no-go Gap Gauge (DIGS-) between the Nut and Body Hex.

- When the DIGS does not enter the gap, the fitting is sufficiently tightened.
- When the DIGS enters the gap, the fitting is required to tighten additionally.



2. Re-operation

- 1) Close Bypass Valve



- 2) Maintain Swaging Head
Arm in an Upward Position



- 3) Follow the instructions **1. Operation** 2) through 6)

8. Trouble Shooting

1. If tubing is difficult to remove from DHS-2A after Pre-Swaging, Gently rock the tubing back and forth to remove it. Don't rotate the tube.
2. If the unit fails to swage sufficiently, check the oil level first, then follow the instructions **3. Swaging Head setup** 2) through 3)
3. If oil is leaking from the swaging head, return the unit to your authorized DK-Lok distributor

9. Storage Instruction

Dismantle Unit and Store

- 1) Open Bypass Valve



- 2) Unscrew the DIE Fixing Bolt, and remove the DJS with the Ratchet Wrench (If necessary)



- 3) Clean all Components & Accessories
- 4) Keep all of the Components & Accessories in the supplied DHS-2A Case
- 5) Lay the case horizontally down whenever possible

10. Recommended Tubing Wall Thickness for use with DHS-2A unit and DJS Ordering Number

※ CAUTION

Use of tubing below the recommended minimum wall thickness may result in the tube sticking in the die head.

For DK-Lok OD (in.)	Stainless Steel Seamless Tubing Wall Thickness		DJS Ordering Number
	Min. (in.)	Max (in.)	
1/2	0.065	0.083	DJS-8
5/8		0.095	DJS-10
3/4		0.109	DJS-12
1	0.083	0.120	DJS-16
1-1/4	0.095	0.156	DJS-20
1-1/2		0.188	DJS-24
2	0.109		DJS-32

For DK-Lok OD (mm)	Stainless Steel Seamless Tubing Wall Thickness		DJS Ordering Number
	Min. (mm)	Max (mm)	
12	1.5	2.0	DJS-12M
14		2.2	DJS-14M
15			DJS-15M
16	1.8	DJS-16M	
18		2.5	DJS-18M
20	2.0	2.8	DJS-20M
22			DJS-22M
25		3.0	DJS-25M
28	2.2	3.5	DJS-28M
30			DJS-30M
32		4.0	DJS-32M
38	2.5	4.5	DJS-38M
50		5.0	DJS-50M

Safe Product Selection
When selecting a product, the total system design must be considered to ensure safe performance. Product function, material compatibility, adequate ratings, proper installation, operation, and maintenance are the sole responsibility of the system designer and user.
Product Warranty
DK-Lok hereby warrants to the purchaser of this product that the components of the product shall be free from defects in material and workmanship for twelve months from the date of purchase. Manufacturer shall be liable only if the product is used as specified in the current catalog and written instructions.
The purchaser's remedies shall be limited to replacement and installation of ant parts that fail through a defect in material or workmanship.
MANUFACTURER SPECIFICALLY DISAVOWS ANY OTHER REPRESENTATION, EXPRESS OR IMPLIED, WARRANTY, OR LIABILITY RELATING TO THE CONDITION PURCHASE, OR ANY THIRD PARTY, FOR ANY DIRECT OR INDIRECT CONSEQUENTIAL OR INCIDENTAL DAMAGES.