



**Operating Manual:
12 & 20 Tonne Commercial Pit Jacks**

PJ012 - 12 Tonne - Chrome Rods

PJ011 - 20 Tonne - Chrome Rods

PJ013 - 20 Tonne - Threaded Rods with Locking Nuts

PJ014 - 12 Tonne - Threaded Rods with Locking Nuts

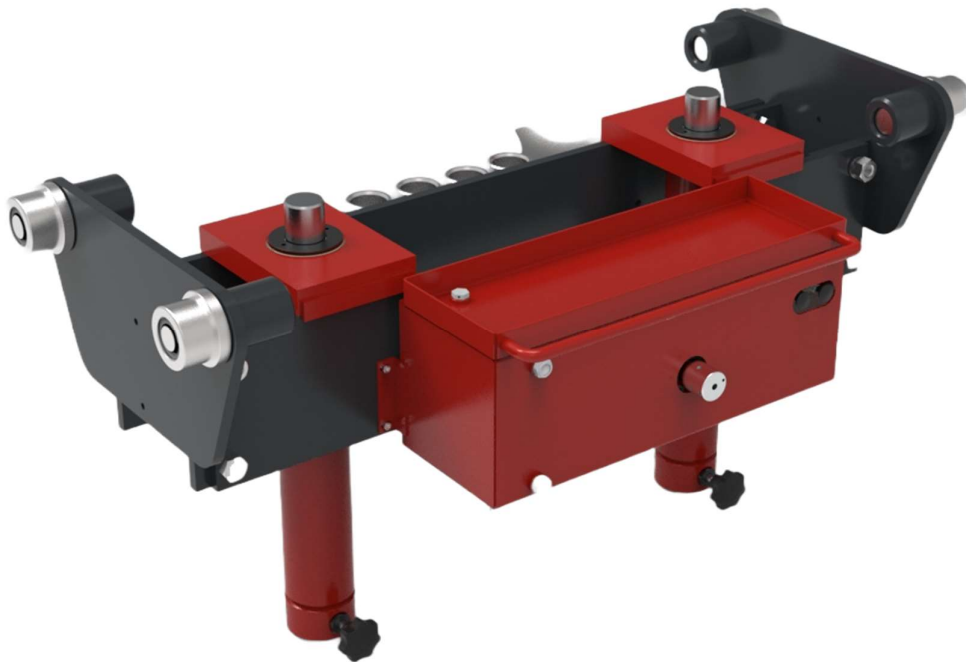


Image Shows 20 Tonne Chrome Rodded Pit Jack (PJ011)

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Installation of Pit Jack

1. Inspection on Delivery

- 1.1. Upon delivery and unpacking, inspect the pit jack for any damage or missing components.
- 1.2. Report any damages or shortages immediately to the supplier.
- 1.3. The pit jack will be secured to the shipping pallet. Remove the fixing screws to release it.

2. Preparation for Installation:

- 2.1. The pit jack is pre-adjusted to the minimum pit width specified on your pit survey form.
- 2.2. Using a suitable lifting device, raise the pit jack and carefully remove the shipping legs.
- 2.3. Avoid damaging the cylinder isolation valves and pump release valve during this process.
- 2.4. Lower the pit jack into the pit.

3. Fitting to Pit Rails:

- 3.1. Offer the jack to the pit rails.
- 3.2. The rollers may need to be adjusted. This can be done by locating the grub screws under each axle housing and loosening them (**do not remove them**) to reposition the rollers.
- 3.3. Extend the rollers to align with the pit rails.
- 3.4. Lower the jack onto the rails and test by running it along the pit length to ensure proper alignment.
- 3.5. Tighten the grub screws to secure the rollers in position.
- 3.6. Finally, lower and position the jack securely onto the rails.

Air Operated Pit Jacks

4. Airline Connector Installation:

- 4.1. Fit a suitable airline connector to the water trap. The water trap has a 1/4" BSP female thread.

5. Air Supply and Pressure Check:

- 5.1. Inspect all air and hydraulic pipes for signs of damage before connecting the air supply.
- 5.2. Ensure the airline pressure is between 75 to 110 psi.
- 5.3. If the pressure exceeds 110 psi, install a pressure-reducing valve to reduce it to 110 psi.

Operating **above** the recommended pressure will invalidate the warranty.

6. Pre-Operational Checks:

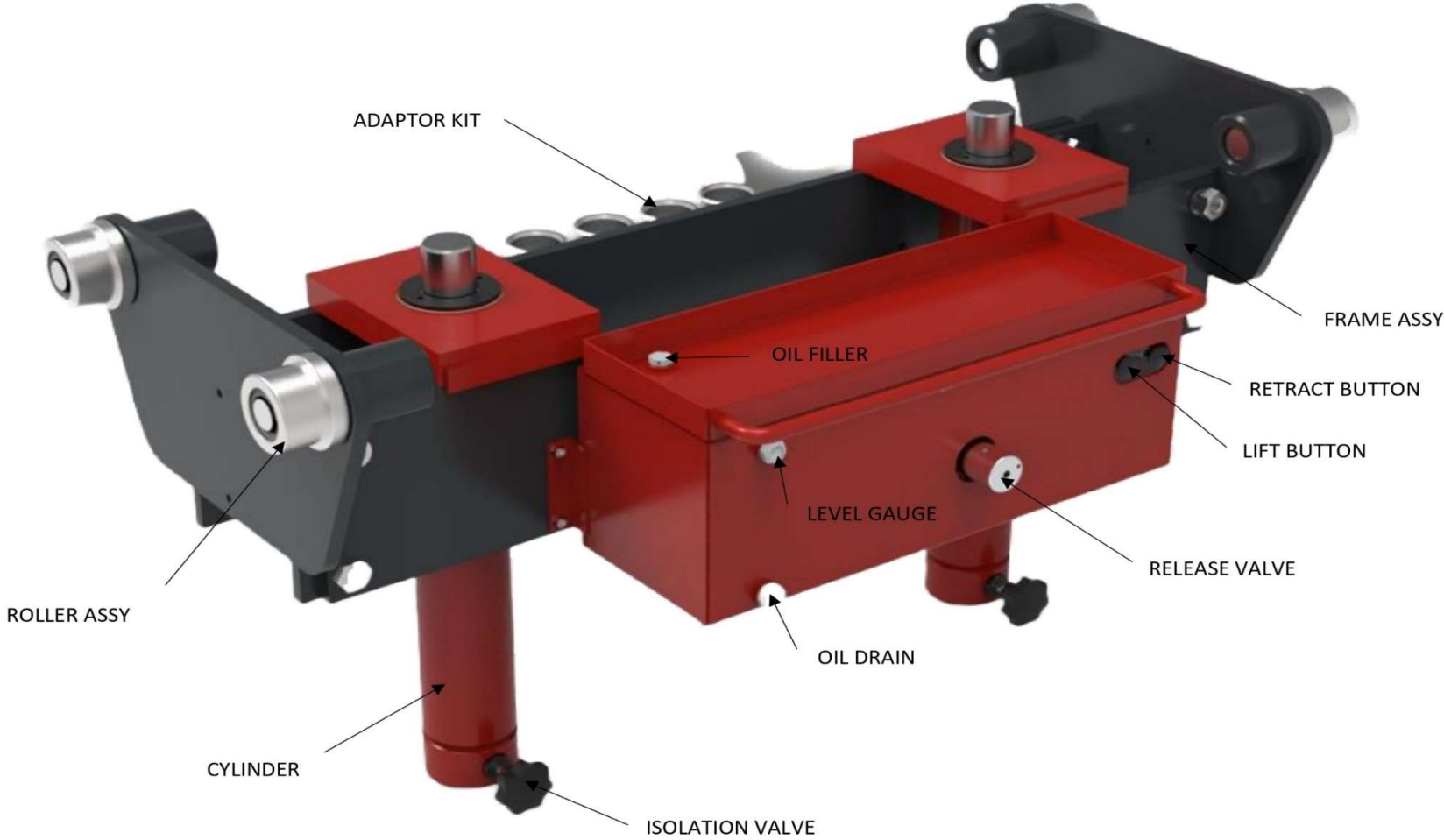
- 6.1. Move the pit jack to an open space in the pit. **Do not** attempt to lift any load yet.
- 6.2. Check the oil level and top it up if necessary, using ISO grade 32 hydraulic oil only. Avoid using other fluids, as they may damage the pump and cylinder seals.

7. Cycling the Jack:

- 7.1. Connect the airline and extend the cylinders fully, then retract them completely.
- 7.2. Repeat this process 3–4 times to ensure proper functioning.
- 7.3. Extend the cylinders again and hold the raise button when they reach the top of their lift.
- 7.4. The air pump will slow down to a steady pace; release the button at this point.
- 7.5. Inspect the jack thoroughly for any oil or air leaks.
- 7.6. Retract the cylinders.

The pit jack is now ready for use. By following these steps carefully, you can ensure proper installation and safe operation of your pit jack.

Part Reference Diagram



Operating Instructions

1. Positioning the Jack

- 1.1. Place the jack at a suitable lifting point within the pit.
- 1.2. Adjust the cylinders to distribute the load evenly across the jack width.

2. Connecting the Air Supply

- 2.1. Attach the air supply to the jack. Ensure the operating pressure is within the range of **5 bar (75 psi) to 7.5 bar (110 psi)**.

3. Fitting Lifting Adaptors

- 3.1. Attach a suitable lifting adaptor to the cylinder rod(s). Use the extension adaptors if additional height is required.

4. Preparing the Cylinders

- 4.1. Open the isolation valve(s) located at the bottom of the cylinder(s). **Note:** The cylinders will not move if the isolation valves are closed.

5. Safety Check

- 5.1. Ensure the work area is clear and verify that no personnel are in danger before operating the jack.

6. Raising the Vehicle

- 6.1. Press the raise button to extend the cylinder rod(s).
- 6.2. As the vehicle begins lifting, the air pump will slow down due to the increasing pressure; this is normal.
- 6.3. Release the button once the vehicle reaches the desired height.

7. Securing the Vehicle

IMPORTANT: For Chrome Rod, after reaching the required height the isolation/safety valve(s) at the bottom of the cylinder(s) **MUST BE CLOSED** and use **axle stands** to support the vehicle securely before performing any work.

IMPORTANT: For Threaded Rod, after reaching the required height the isolation/safety valve(s) at the bottom of the cylinder(s) **MUST BE CLOSED**. Wind the knurled locking nut down to the bottom of the cylinder to ensure it locks off the cylinder to securely hold the load and use **axle stands** to support the vehicle securely before performing any work.

7. Lowering the Vehicle - Chrome Rod

- 7.1. Confirm that the area beneath the vehicle is clear of obstacles.
- 7.2. Slowly open the cylinder isolation valve(s), some movement can occur as the load levels.
- 7.3. Gradually turn the release valve on the pump to control the descent rate.
- 7.4. Once the vehicle is on the ground, hold the release valve open.
- 7.5. Press the lower button to fully retract the cylinder(s).

8. Lowering the Vehicle - Threaded Rod

- 8.1. Confirm that the area beneath the vehicle is clear of obstacles.
- 8.2. Slowly open the cylinder isolation valve(s), some movement can occur as the load levels.
- 8.3. Wind the knurled locking nuts back up to the top of the cylinders.
- 8.4. Gradually turn the release valve on the pump to control the descent rate.
- 8.5. Once the vehicle is on the ground, hold the release valve open until to fully retract the cylinder(s).

9. Troubleshooting Descent Issues

If the release valve is opened too quickly, the cylinder(s) may lock due to the internal safety valve.

To resolve this:

- 9.1. Slightly raise the vehicle by pressing the raise button.
- 9.2. Open the release valve slowly to resume lowering.

By following these steps, you can safely and effectively operate the PJ012, PJ011, PJ013 and PJ014 pit jacks. Always prioritise safety and inspect the equipment regularly to ensure proper functioning.

NEVER WORK UNDER AN UNSUPPORTED VEHICLE!

Chrome Rod 10 Tonne Pit Jack Cylinder Drawing & Parts List

Ⓜ

DO NOT SCALE **IF IN DOUBT ASK** **REMOVE ALL SHARP EDGES 0.5 X 45°**


DWG No: **R04157**

Item No.	Part No.	Quantity
1	011-00392	1
2	295-00082	1
3	567-00174	1
4	295-00610	1
5	892-00131	1
6	950-40048	1
7	011-00312AA	1
8	R03212SK	1
9	011-00300	1
10	011-00330	1
11	544-00234	1
12	011-00320	1

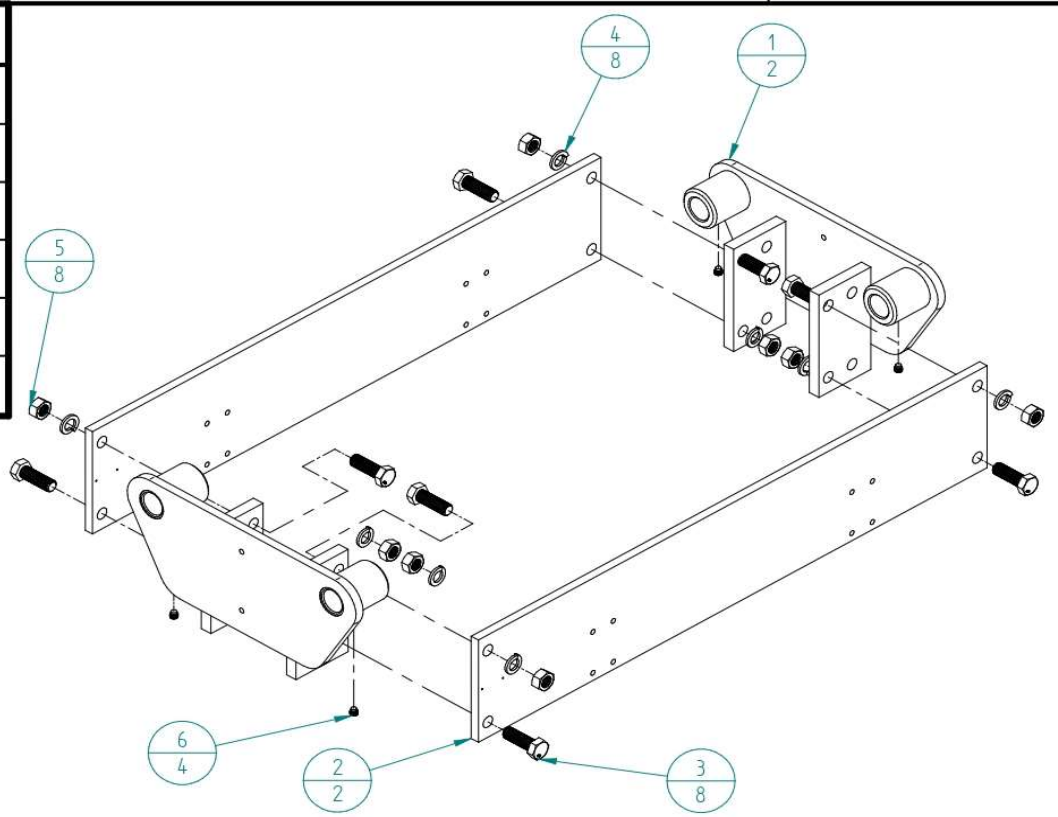
DRAWN	NAME	DATE
	M. Steele-Vaessen	16/02/22

ABCO Engineering (Hydraulics)		
Tel: 01636 812674 Fax: 01636815448		
SIZE	TITLE	ISSUE
A4	10 TONNE PIT JACK CYLINDER 400 ST	1
FILE NAME: R04157.dft		
MATL:		SCALE: 1:6

Chrome Rod Pit Jack Frame Assy Drawing & Parts List

	DO NOT SCALE	IF IN DOUBT ASK	REMOVE ALL SHARP EDGES 0.5 X 45°	DWG No	011-30000AA
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Item No.	Part No.	Description	Quantity
1	011-00755	END PLATE ASSY	2
2	011-00650	SIDE PLATE	2
3	670-02060	M20 x 60 BOLT	8
4	890-00200	M20 SPRING WASHER	8
5	500-00200	M20 NUT	8
6	681-01212	M12 x 12 GRUB SCREW	4



	NAME	DATE	ABCO Engineering (Hydraulics)		
DRAWN	M. Steele-Vaessen	15/02/22	Tel: 01636 812674 Fax: 01636815448		
UNSPEC TOL:		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETERS	SIZE	TITLE	ISSUE
LINEAR	ANGULAR		A4	PIT JACK FRAME ASSY	1
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X.0 : ±0.1	X.0 : ±0.5°		MATERIAL:	SCALE: 1:10	
X.00 : 0.05					

Chrome Rod Pit Jack Tank Assy Drawing & Parts List



DO NOT SCALE

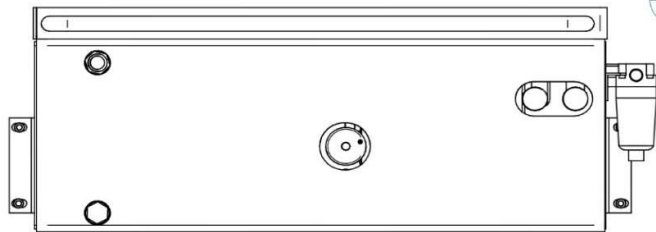
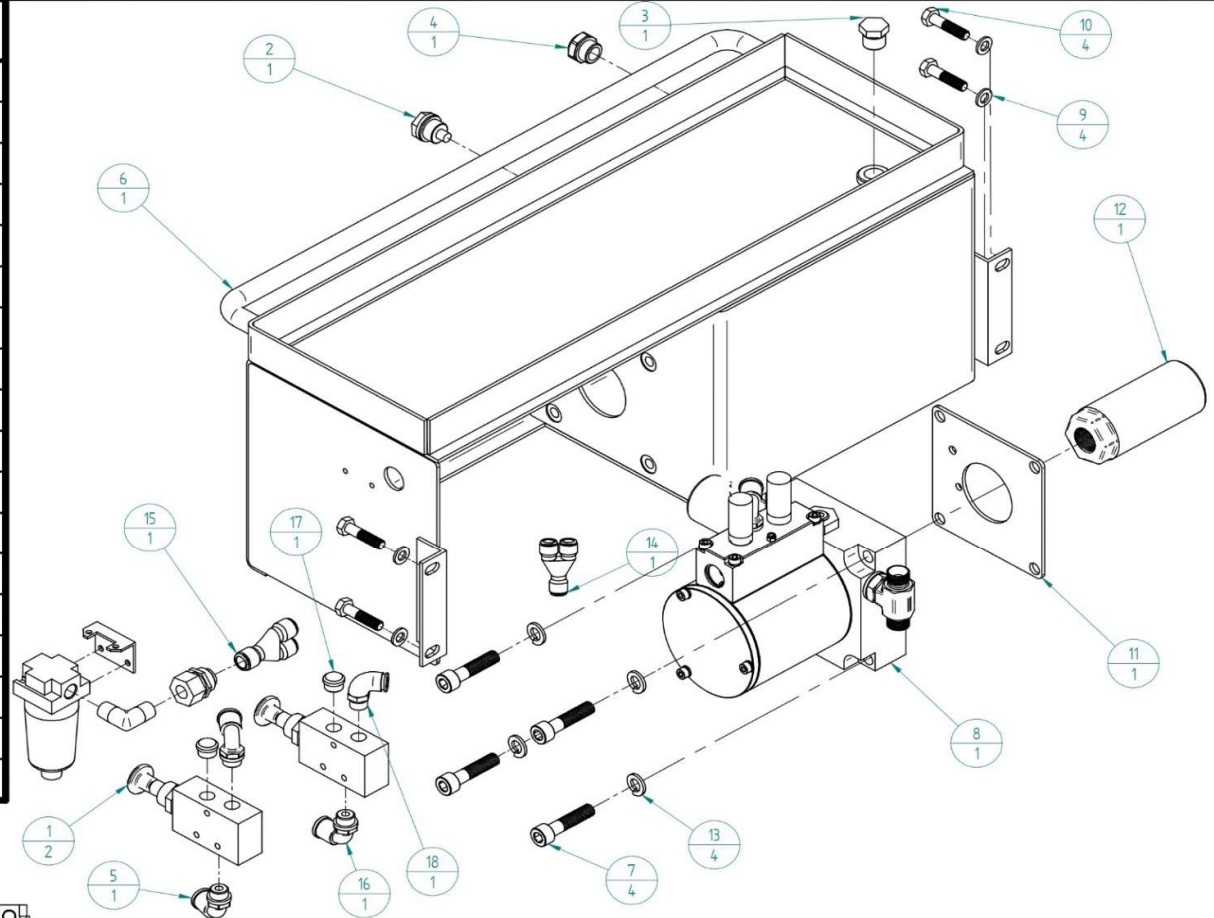
IF IN DOUBT ASK

REMOVE ALL SHARP EDGES 0.5 X 45°

DWG No

011-20005

Item No.	Part No.	Description	Qty
1	011-00070	PNEUMATIC VALVE	2
2	295-01502	DRAIN PLUG	1
3	150-00096	3/8BSP BREATHER	1
4	295-00310	LEVEL GAUGE	1
5	013-00900	AIR FITTING KIT	1
6	011-10010AB	TANK WELDMENT	1
7	650-01045	M8 x 45 BOLT	4
8	565-00740	PUMP ASSY	1
9	890-00080	M8 WASHER	4
10	670-00835	M8 x 35 BOLT	4
11	011-00052	AIR PUMP GASKET	1
12	290-00600	SUCTION FILTER	1
13	890-00101	M10 WASHER	4
14	011-00145	'Y' ADAPTOR 8mm	1
15	011-00120	'Y' ADAPTOR 10mm	1
16	011-00100	1/4BSP ELBOW 10mm	1
17	290-00250	1/4BSP FILTER	1
18	295-00082	1/4BSP ELBOW 8mm	1

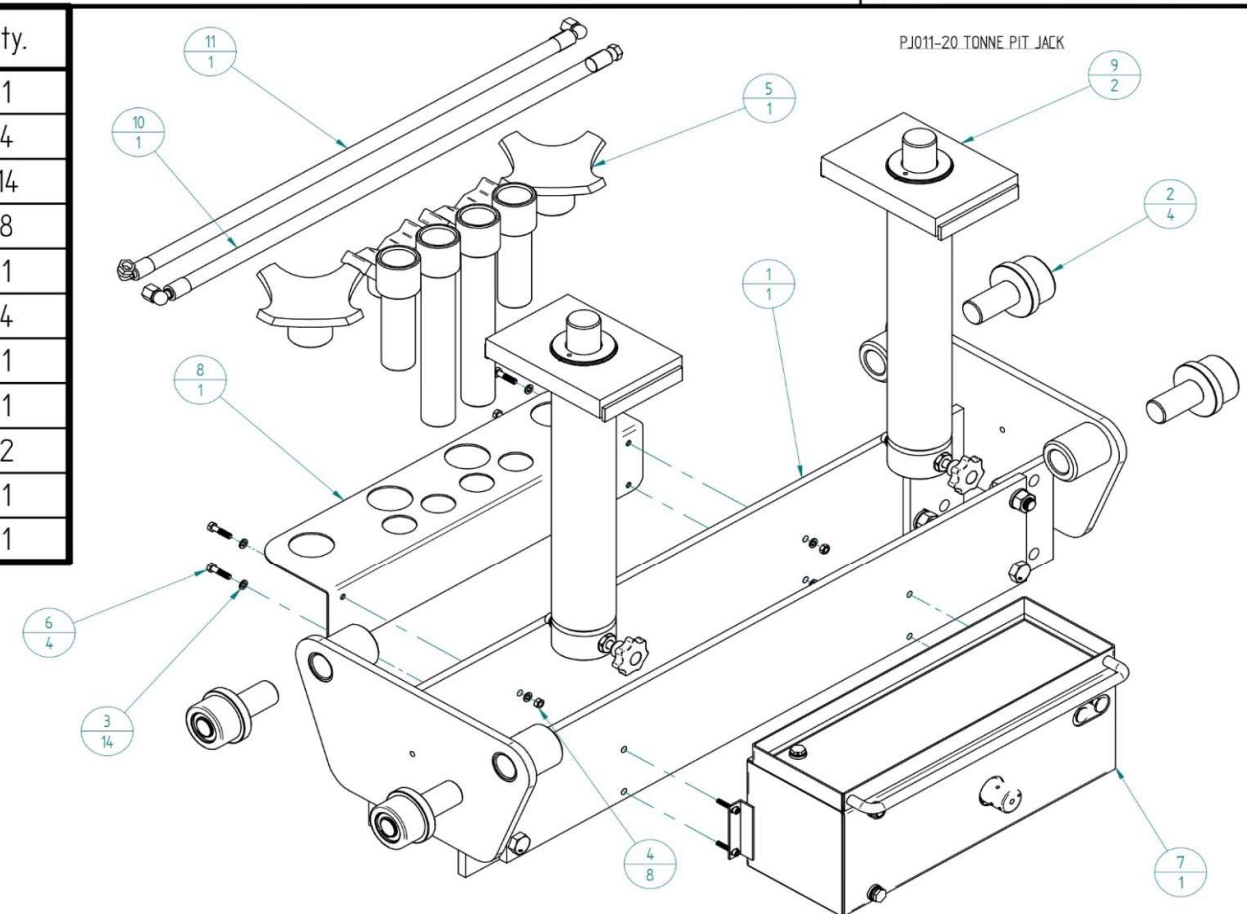


NAME		DATE	ABC0 Engineering (Hydraulics)	
DRAWN		M. Steele-Vaessen	18/07/23	
		Tel: 01636 812674 Fax: 01636815448		
UNSPEC TOL:	ANGULAR	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETERS		SIZE
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X ±0.3	X.0 ±0.5°			TITLE
X.0 ±0.1				011 PIT JACK TANK ASSEMBLY
X.00 0.05				ISSUE
				1
		FILE NAME: 011-20005.dft		
		MATL:		SCALE: 1:5

Chrome Rod Pit Jack Assy Drawing & Parts List

		DO NOT SCALE	IF IN DOUBT ASK	REMOVE ALL SHARP EDGES 0.5 X 45°	DWG No 011-90000AA
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Item No.	Part No.	Description	Qty.
1	011-30000AA	PIT JACK FRAME	1
2	565-00754P	ROLLER ASSY	4
3	890-00080	M8 WASHER	14
4	500-00080	M8 NUT	8
5	565-00703	ADAPTOR KIT	1
6	670-00835	M8 X 35 BOLT	4
7	011-20005	TANK ASSY	1
8	013-50016	ADAPTOR CARRIER	1
9	R04157	RAM ASSY	2
10	011-00802	L/H HOSE	1
11	011-00803	R/H HOSE	1

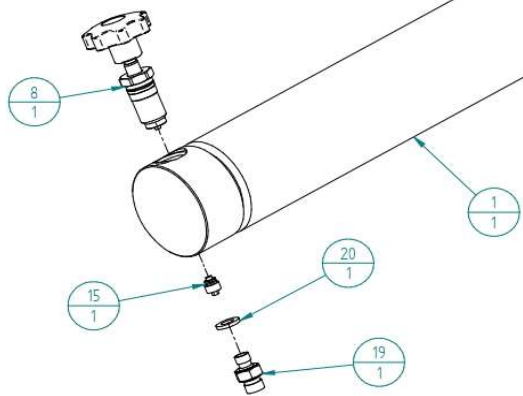
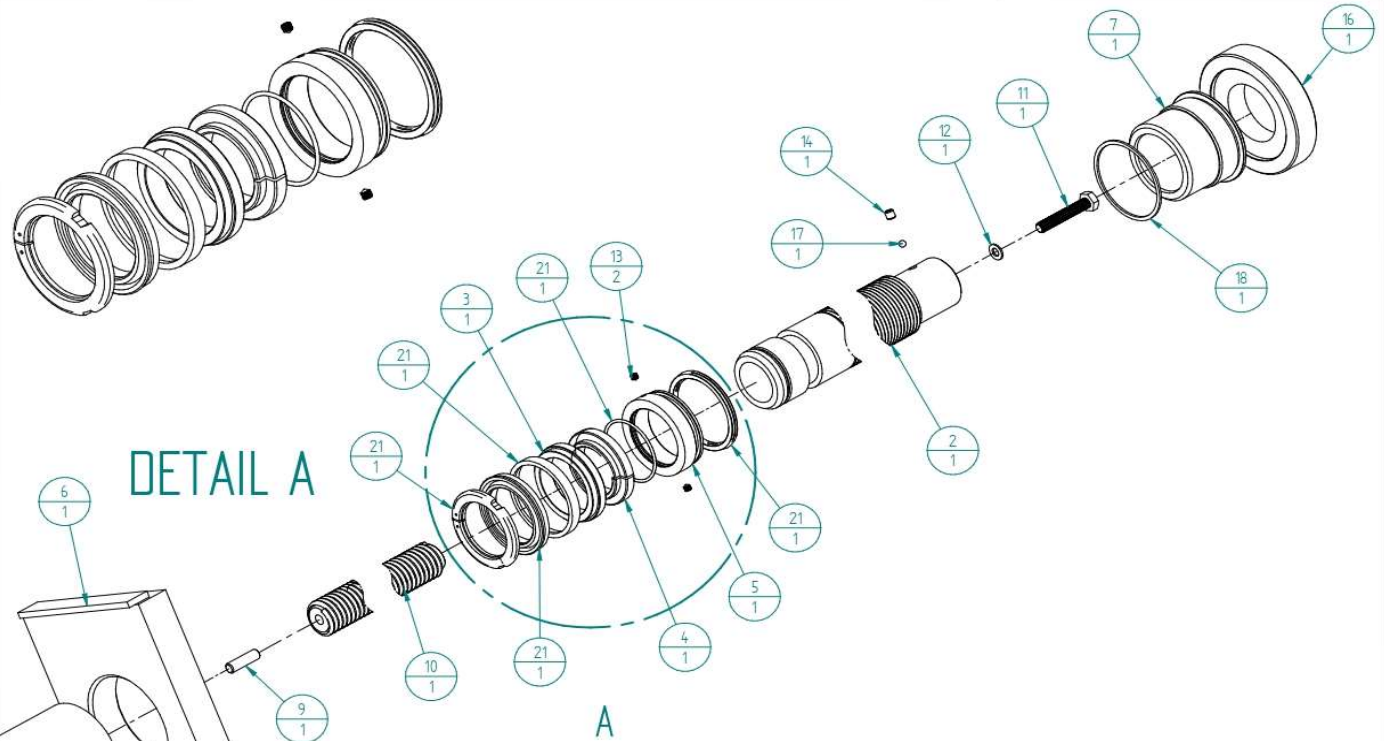


	NAME	DATE	ABCO Engineering (Hydraulics) Tel: 01636 812674 Fax: 01636815448	
DRAWN	M. Steele-Vaessen	17/07/23	SIZE A4	TITLE AIR OP PIT JACK CHROME ROD
UNSPEC TOL: LINEAR ANGULAR X ±0.3 X ±1° X.0 ±0.1 X.0 ±0.5° X.00 0.05		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETERS		ISSUE 1
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			MATL:	SCALE:1:10

Threaded Rod 10 Tonne Pit Jack Cylinder Drawing & Parts

DO NOT SCALE IF IN DOUBT ASK REMOVE ALL SHARP EDGES 0.5 X 45° DWG No R03774

Item No.	Part No.	Quantity
1	013-00390AA	1
2	013-00310	1
3	013-00410	1
4	013-00411	1
5	740-60026	1
6	011-00320	1
7	300-30221	1
8	567-00174	1
9	680-01035	1
10	730-00350A	1
11	670-01060	1
12	892-00110	1
13	680-00606A	2
14	680-00808	1
15	295-00610	1
16	013-00311	1
17	110-00063	1
18	544-00234	1
19	950-40048	1
20	892-00131	1
21	R03774SK	1



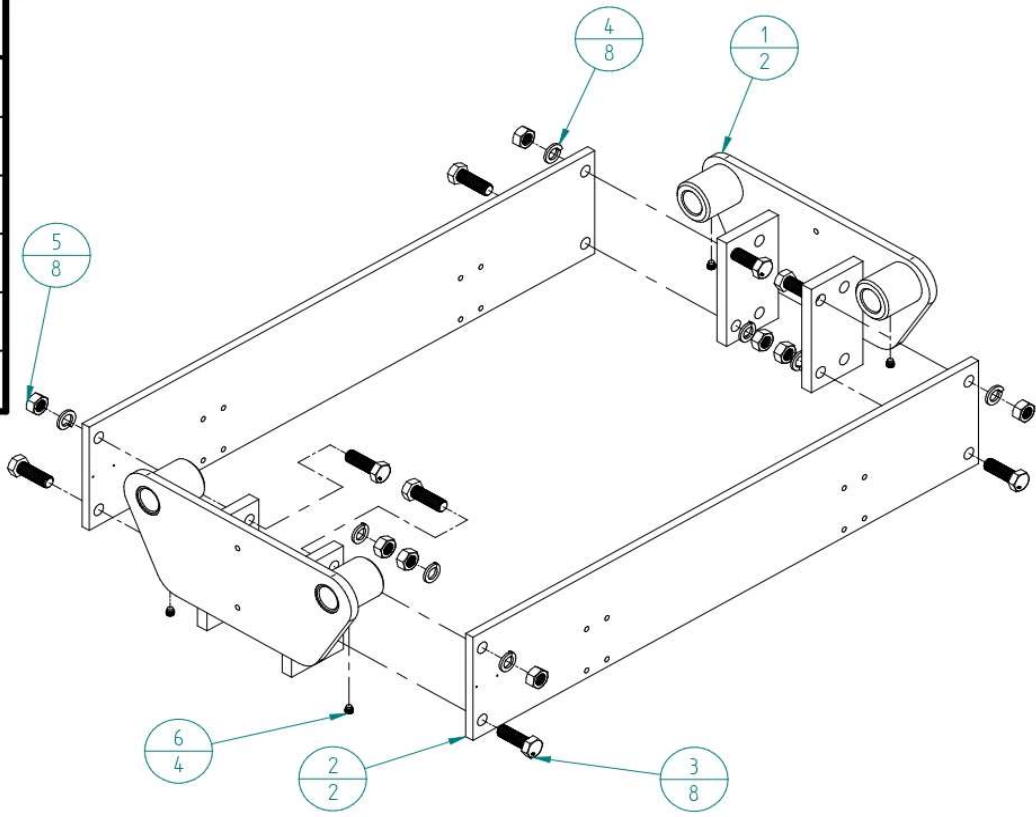
NAME		DATE	ABCO Engineering (Hydraulics)	
DRAWN M. Steele-Vaessen		15/02/22	Tel: 01636 812674 Fax: 01636815448	
UNSPEC TOL: LINEAR X ±0.3 X.0 ±0.1 X.00 0.05		ANGULAR X ±1° X.0 ±0.5°		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETERS
SIZE A4	TITLE 10 TONNE PIT JACK CYLINDER	FILE NAME: R03774.dft		ISSUE 1
MATL:			SCALE: 16	

Threaded Rod Pit Jack Frame Assy Drawing & Parts List

DO NOT SCALE IF IN DOUBT ASK REMOVE ALL SHARP EDGES 0.5 X 45°


DWG No 011-30000AA

Item No.	Part No.	Description	Quantity
1	011-00755	END PLATE ASSY	2
2	011-00650	SIDE PLATE	2
3	670-02060	M20 x 60 BOLT	8
4	890-00200	M20 SPRING WASHER	8
5	500-00200	M20 NUT	8
6	681-01212	M12 x 12 GRUB SCREW	4

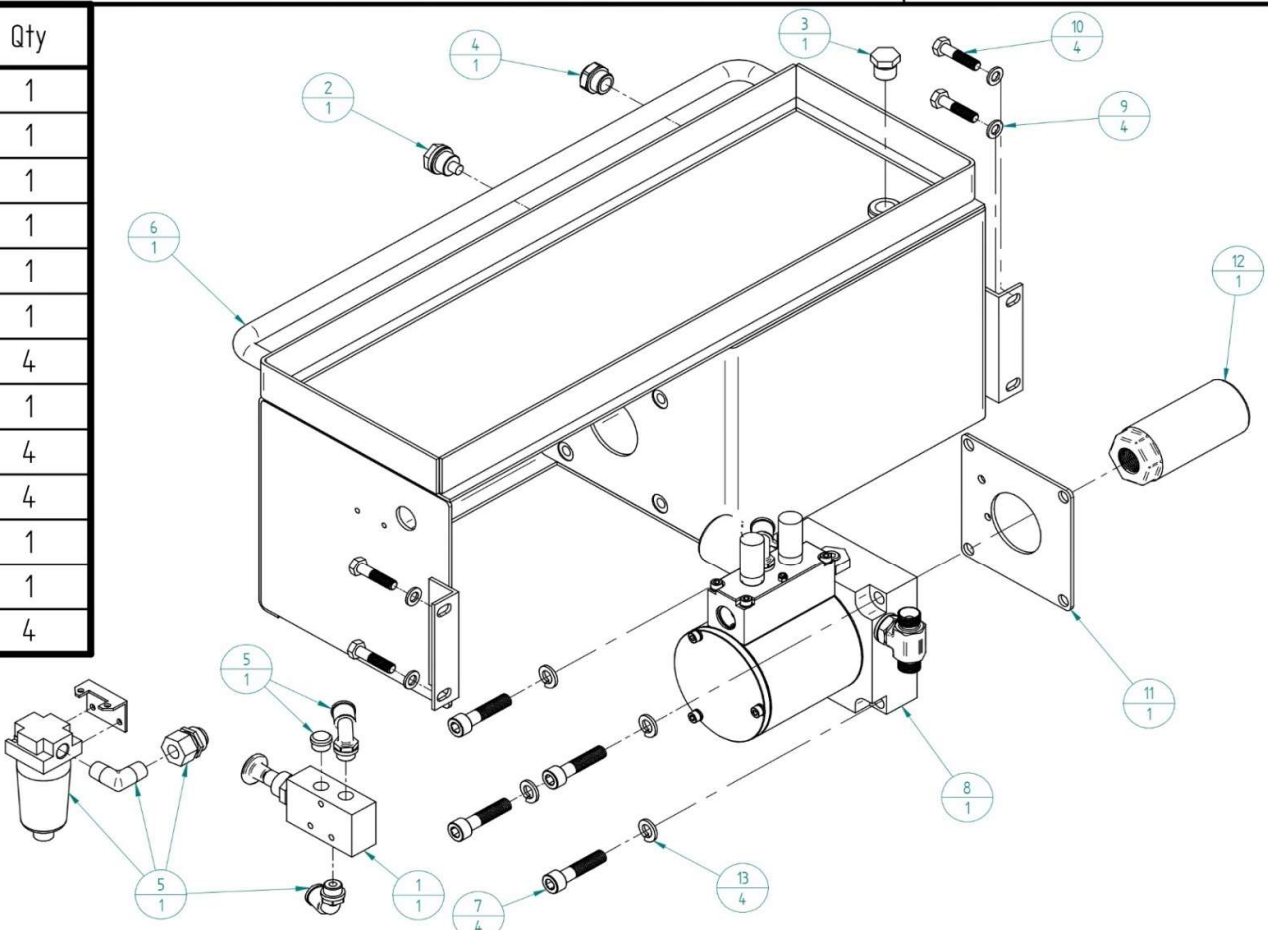


	NAME	DATE	ABCO Engineering (Hydraulics)		
DRAWN	M. Steele-Vaessen	15/02/22	Tel: 01636 812674 Fax: 01636815448		
UNSPEC TOL: LINEAR ANGULAR X :±0.3 X :±1° X.0 :±0.1 X.0 :±0.5° X.00 :0.05		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETERS		SIZE A4	TITLE PIT JACK FRAME ASSY
				FILE NAME: 011-30000AA.dft	ISSUE 1
				MATL:	SCALE: 1:10

Threaded Rod Pit Jack Tank Assy Drawing & Parts List


	DO NOT SCALE	IF IN DOUBT ASK	REMOVE ALL SHARP EDGES 0.5 X 45°	DWG No 013-20005
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Item No.	Part No.	Description	Qty
1	011-00070	PNEUMATIC VALVE	1
2	295-01502	DRAIN PLUG	1
3	150-00096	3/8BSP BREATHER	1
4	295-00310	LEVEL GAUGE	1
5	013-00900	AIR FITTING KIT	1
6	011-10010AB	TANK WELDMENT	1
7	650-01045	M8 x 45 BOLT	4
8	565-00740	PUMP ASSY	1
9	890-00080	M8 WASHER	4
10	670-00835	M8 x 35 BOLT	4
11	011-00052	AIR PUMP GASKET	1
12	290-00600	SUCTION FILTER	1
13	890-00101	M10 WASHER	4



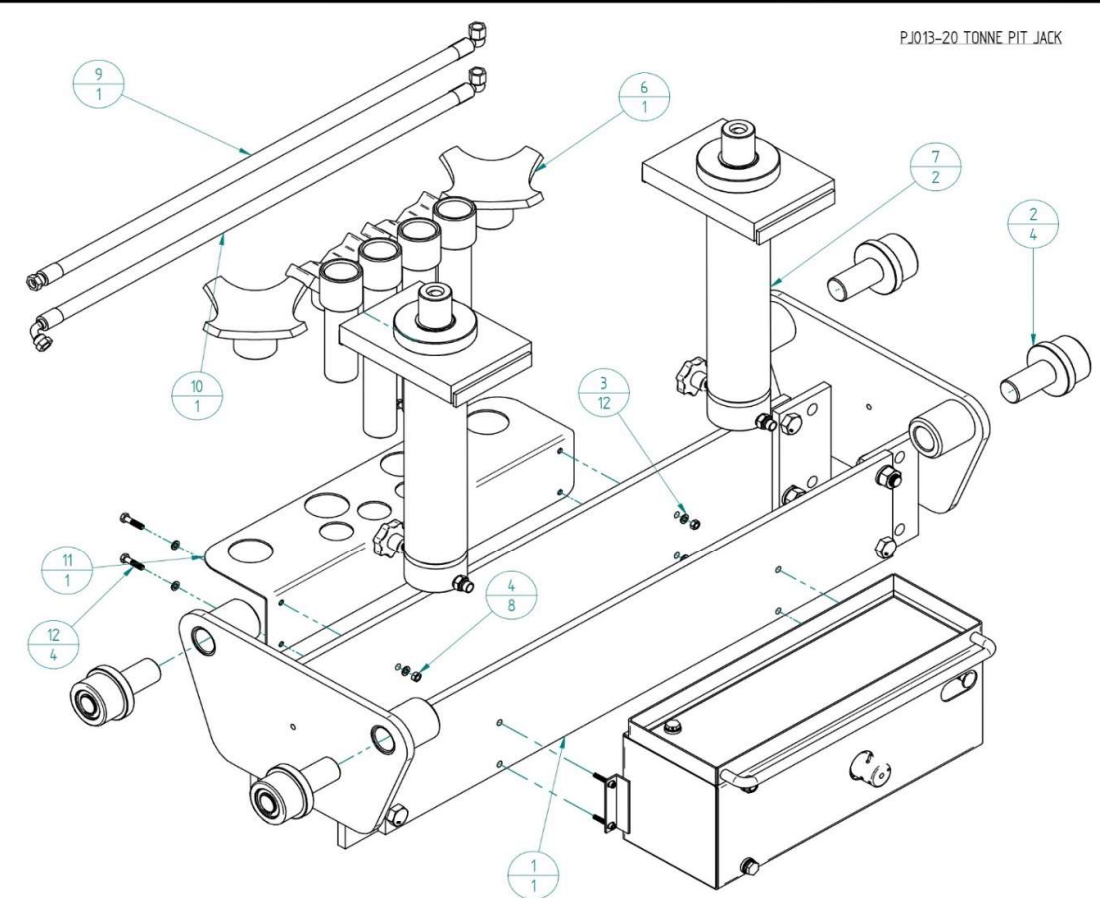
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DRAWN	M. Steele-Vaessen	18/07/23	SIZE A4	TITLE 013 PIT JACK TANK ASSEMBLY
UNSPEC TOL: LINEAR X ±0.3 ANGULAR X ±1° X.0 ±0.1 X.0 ±0.5° X.00 0.05		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETERS		ISSUE 1
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			MATL:	

Threaded Rod Assy Drawing & Parts List

	DO NOT SCALE IF IN DOUBT ASK	REMOVE ALL SHARP EDGES 0.5 X 45°	DWG No 013-9000AA
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Item No.	Part No.	Description	Quantity
1	011-3000AA	PIT JACK FRAME	1
2	565-00754P	ROLLER ASSY	4
3	890-00080	M8 WASHER	12
4	500-00080	M8 NUT	8
6	565-00703	ADAPTOR KIT	1
7	R03774	RAM ASSY	2
8	013-20005	TANK ASSY	1
9	011-00802	R/H HOSE	1
10	011-00803	L/H HOSE	1
11	013-50016	ADAPTOR CARRIER	1
12	670-00835	M8 x 35 BOLT	4

PJ013-20 TONNE PIT JACK



	NAME	DATE	ABCO Engineering (Hydraulics)	
DRAWN	M. Steele-Vaessen	17/07/23	Tel: 01636 812674 Fax: 01636815448	
UNSPEC TOL:	ANGULAR	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETERS	SIZE	TITLE
LNEAR	X :±1°		A4	PIT JACK THREADED ROD
X :±0.3	X.O :±0.5°		FILE NAME: 013-9000AA.dft	
X.O :±0.1			MATL:	SCALE: 1:10
X.OO :0.05				ISSUE 1

Weekly Maintenance

NOTE: Disconnect the air supply before performing any maintenance tasks.

1. Cleaning

- 1.1. Remove all dirt and debris from the cylinder rod(s) and air pump. Keeping the pit jack clean will help extend its operational lifespan.
- 1.2. Ensure the water trap is drained.

2. Roller Inspection:

- 2.1. Ensure the rollers move freely along the rails.
- 2.2. Address any obstructions or resistance to ensure smooth operation.

3. Hose Inspection:

- 3.1. Check all hoses for signs of damage, wear, or aging.
- 3.2. Replace any damaged hoses immediately. Failure to do so could result in a serious accident.

4. Frame and Bolt Check:

- 4.1. Inspect the pit jack frame for structural integrity.
- 4.2. Ensure all connecting bolts are tight and secure.

5. Oil Level Check:

- 5.1. Verify the oil level when the cylinder(s) are retracted.
- 5.2. The oil should be visible in the centre of the sight gauge.
- 5.3. If needed, top up with ISO grade 32 hydraulic oil only.

Note: Do not use alternative fluids to avoid damage to the pump and cylinder seals.

Use the enclosed maintenance record sheet to document each weekly inspection.

By conducting these weekly checks, you can ensure the pit jack remains in optimal working condition and avoid unnecessary wear or accidents.

Maintenance Record

Part No.

Serial No.

Week Commencing:

Inspections Checks	Week 1	Week 2	Week 3	Week 4	Week 5
Remove all dirt and debris from the cylinder rod(s) and air pump					
Ensure water trap has been drained					
Check the rollers move freely along the rails					
Check all hoses for signs of damage, wear, or aging					
Inspect the pit jack frame for structural integrity					
Ensure all connecting bolts are tight and secure					
Check Oil Level					
Completed by					
Additional Comments: 					

Copy this sheet for your records

Pit Jack Extended 5 Year Limited Warranty

Year 1

Full parts cover

Any part failing from faulty materials or workmanship within the first 12 months from date of purchase will be replaced/repaired free of charge. Accidental and water damage of any component will not be covered by the warranty and will be fully chargeable (all repairs will be quoted before being carried out) e.g. damaged cylinder rods, internal water damage, damaged isolation/release valves etc.

Year 2-5

Limited parts cover

Any part failing from faulty materials or workmanship, between month 13 to 60 from date of purchase will be replaced/repaired free of charge. Excluded from the above statement are consumable wearing parts: seals (cylinder, pump and valve), bearings, lifting adaptors, internal air pump components, air pipes, hydraulic hoses, any part suffering from accidental or water damage.

To ensure a long service life and continued warranty support for your pit jack, it is essential to maintain the equipment in good working order and adhere to all operating parameters.

This includes, but is not limited to:

- Keeping the water trap intact and regularly drained.
- Operating the jack within the specified air pressure range.
- Ensuring the jack remains clean and free from debris.

Detailed instructions for weekly maintenance are provided in the operating manual. **Failure to comply with these operating parameters and maintenance requirements may invalidate your warranty.**

Please see our Terms & Conditions for further information.



DECLARATION OF CONFORMITY



ABCo Engineering Hydraulics
Mill Park
Southwell
Nottinghamshire
NG25 0ET
01636 812674

ABCo Engineering Hydraulics hereby declare that products:

PJ011 - ABCo 20 Tonne Chrome Rod Commercial Pit Jack

PJ012 - ABCo 12 Tonne Chrome Rod Commercial Pit Jack

PJ013 - ABCo 20 Tonne Threaded Rod with Locking Collar Commercial Pit Jack

PJ014 - ABCo 12 Tonne Threaded Rod with Locking Collar Commercial Pit Jack

Comply with the following Directives:

2006/42/EC MACHINERY DIRECTIVE

The undersigned declares, on the behalf of ABCo Engineering Hydraulics that the equipment named above has been designed to comply with the relevant sections of the above referenced specifications. The products comply with all the applicable Essential Health and Safety Requirements of the Directive.

Mike Would – Managing Director