

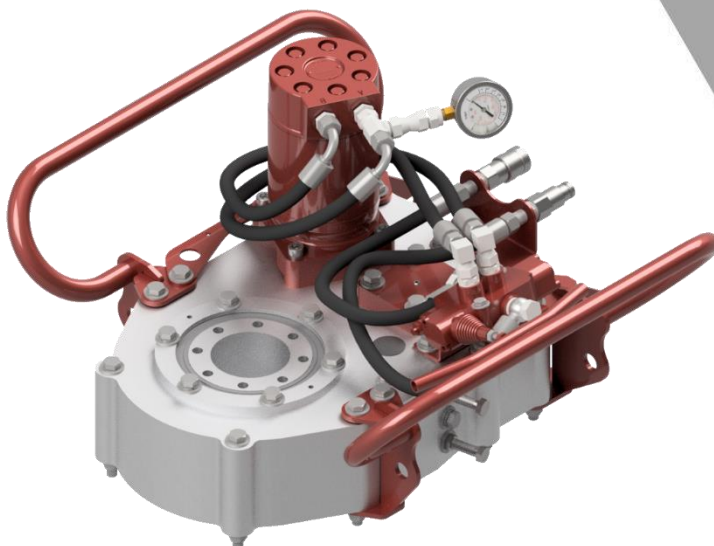


**AUTOGUIDE EQUIPMENT**



# 700H HAND-HELD ANCHOR DRIVER

# MANUAL SPARE PARTS



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These instructions give safety and operations information regarding the use of a Handheld Powerhead supplied by Autoguide Equipment. They contain the relevant information for products:

Product Code	Description	Maximum Output Power (Nm)
49181	700H Handheld Anchor Driver	7,000

To ensure optimum results when operating this equipment it is very important to read this manual carefully, the information will prepare you to do a better, safer job.

Before operating the machine you should familiarise yourself with the instructions in this manual. Incorrect use can lead to damage which is not covered by the Warranty Conditions. This may create a dangerous situation or lead to unsatisfactory results.

These operating instructions **MUST** always be made available to the person or persons operating this equipment.

To assist in the ordering of spares, or other communications with our company, the serial number of the relevant equipment supplied has been recorded below for your information.

Model No:-

Serial No:-

Date of Delivery:-

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# INFORMATION

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Your 700H handheld anchor driver has been individually built with great emphasis on quality, strength and simplicity of design, and with routine care will give many years of trouble free operation.

The following instructions have been written to cover the use and maintenance of the machine. Care should be taken to ensure that you are referring to the correct section of your machine before carrying out any adjustments, or when ordering spare parts.

Like all mechanical products, regular cleaning, lubrication and maintenance will ensure a longer trouble free life. These instructions make no attempt to go beyond routine maintenance, and it is strongly advised that you contact your dealer should any major repairs become necessary.

Use only genuine service parts; non genuine parts may not meet standards required for safe and satisfactory operation.

**Observe all safety information in the manual and on decals fitted to the machine and power unit.**

## Safety Instructions

1. Read and understand this operator's manual prior to operating the machine and keep it in a convenient place for future reference.
2. Keep untrained personnel away from the machine whilst it is in operation.
3. Keep all guards and safety devices in place.
4. Do not operate machine with guards removed.
5. Beware, pressured hydraulic oil can be very dangerous and can penetrate the skin - TAKE THE UTMOST CARE.
6. Keep hands, feet and loose clothing away from moving parts.
7. Always switch off the machine before making any adjustments or when carrying out lubrication and servicing.
8. Keep all nuts, bolts and fasteners tightened.
9. Check machine regularly for damaged or worn parts.
10. If the machine is left unattended ensure that it is secured and/or disabled to prevent use by untrained personnel.

## Description

This is a 7000Nm torque capacity, through shaft, screw pile driving unit, for a minimum 2 man operation. The design of the unit enables the pile shaft to pass through the hollow driving hub, so there is no limit to the length of pile that can be driven.

A torque arm mounted onto the base frame prevents the unit from rotating in an anti-clockwise direction (Clockwise when removing piles).

**Note:** The reaction load when the arm is set at 2 metres long will be in the range of 350kg, so it is very important to ensure the outer end is firmly anchored. **Take extreme care!**

Power is supplied by a 140 Bar, 30Litre/min ABC Powerpack. (If required, the flow can be reduced to 20 Litre/min for operation of lower flow tools).

## Specification.

Type	Hydraulic Hollow shaft Torque Head
Maximum Torque	7000Nm at 130 BAR
Speed	6 rev/min at 30 L/min
Anchor Type	Autoguide 60R and 76R Piles
Operation	Fingertip control allows Forward/Reverse rotation

## Important Notes

The unit is only suitable for use by trained operators using appropriate protective clothing.

This should include: **Safety Boots, High Visibility Jacket, Hard Hat, and Gloves.**

**Do not** adjust the relief valve, or use more than 40 Litre/min of oil flow. Autoguide can supply suitable valves if it is intended to operate the unit from power sources other than the ABC 30 L/min Powerpack.

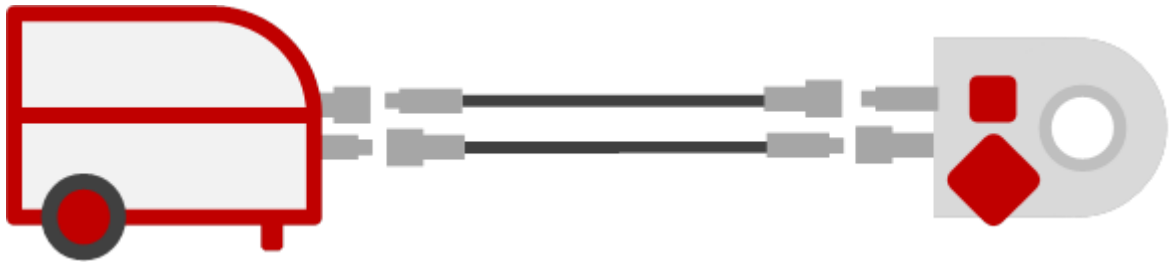
**Remember**, great care must be taken to restrain the torque arm, ideally by tying it to an immovable object at least 2 metres away from the Anchor, with the line of pull at right angles to the torque arm. For maximum safety this connection must be able to withstand a minimum pull of **600kg**.

# ASSEMBLY

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The 700H needs to be connected to the powerpack and torque arm prior to use.

1. If not already, attach a suitable Autoguide 60R or 76R driver to the 700H using 8x M12 Cap Head Bolts. Ensure these are suitably tightened.
2. With the powerpack turned off and ensuring that the hydraulic fittings are clean and free from dirt, connect the two supplied hoses onto the Powerpack unit.
3. Similarly, ensuring that the hydraulic fittings are clean and free from dirt, connect the other end of the two hoses onto the 700H handheld unit.
4. The circuit should look like this:

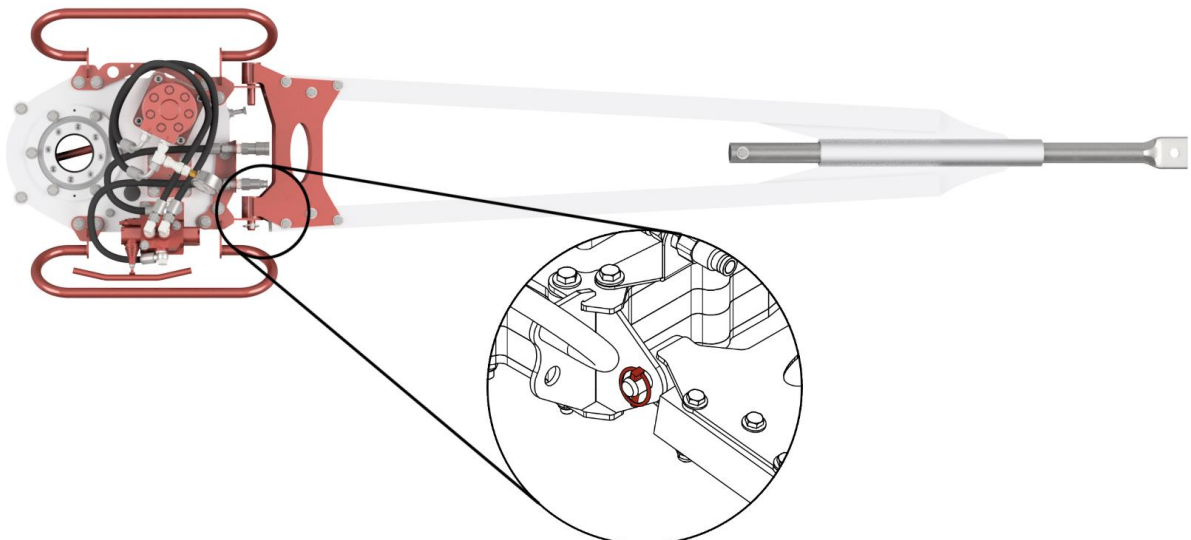


**Note: Do not connect the hoses in the wrong orientation as it may cause damage to the valve and powerhead.**

## Hose Connections

Torque Head Inlet	- Male 3/8" Flat Face	Powerpack Feed	- Female 3/8" Flat Face
Torque Head Outlet	- Female 3/8" Flat Face	Powerpack Return	- Male 3/8" Flat Face

5. Connect the torque arm to the powerhead in either of the 3 possible positions, ensuring the lugs go through the frame.
6. Secure the torque arm with a suitable, working condition 'R Clip' or 'Lynch Pin' as shown below.

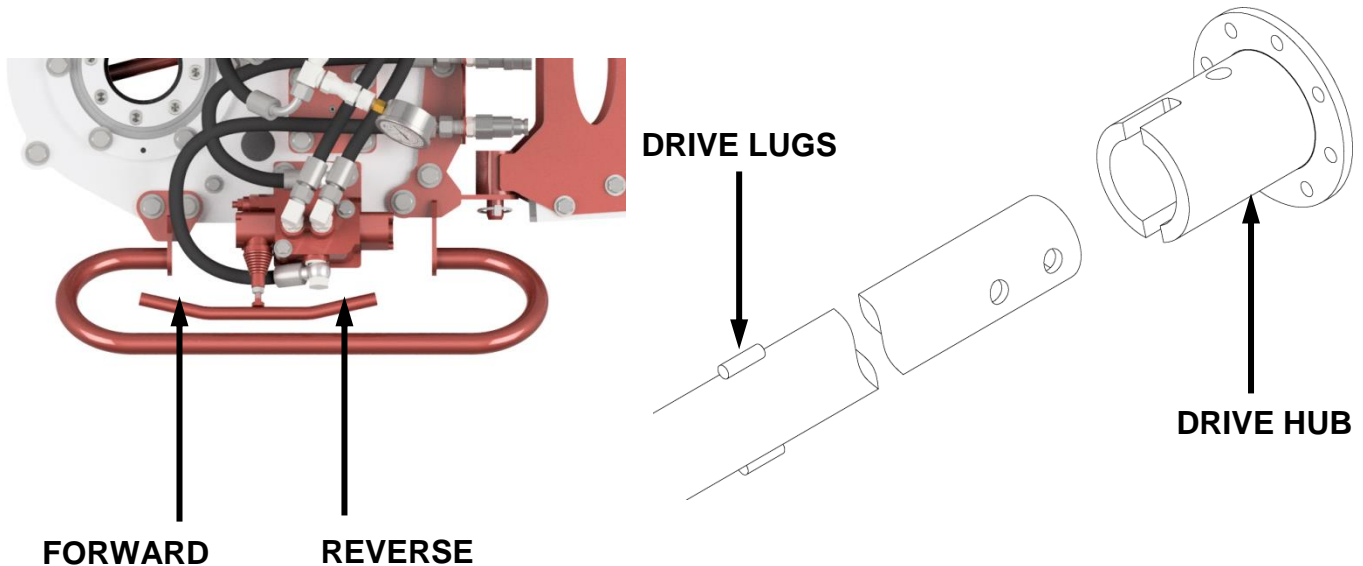


# OPERATION

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To install an anchor, first clear away any vegetation in the area and check for underground cables, pipes, drains or other obstructions. It is not unusual to manually excavate round buried pipes and start the pile within 50mm of a known obstruction.

1. Lay the 700H Driver on the ground and by tipping it on edge, pass the anchor through the driver ensuring the drive lugs engage in the drive hub slot.



2. Stand the anchor and 700H vertically, positioning the anchor tip in the desired location and push it into the surface slightly.
3. Ensure torque arm is extended and positioned against a suitable object capable of withstanding 600kg of force and if possible restrained to prevent detachment or slipping.
4. Ensure the area is clear of non-operating personnel and that no-one is near the torque reaction arm, especially on the '**anticlockwise**' side.
5. Drive the pile forward, checking if it is vertical whilst it is near the surface.
6. Once the first flight of the anchor is under the surface, continue to install slowly and adjust the angle of installation to desired position. No downwards force should be required at this stage.
7. Continue to install the anchor taking care to achieve the correct angle of installation.
8. As the anchor is installed, ensure the moving part of the torque arm is able to slide, enabling the anchor to remain vertical.
9. When the driver is close to the ground, carefully run the driver in reverse to release the torsion in the anchor.



10. Raise the 700H to the top of the anchor, align the holes and fix in place using the supplied drive pins.

**Note: When moving the 700H driver to another drive position on an anchor, it is often convenient to remove the torque arm.**

11. After ensuring the torque arm is refitted correctly, continue to drive the anchor forward into the ground.

12. Once ground level is reached once again, the powerhead can be removed from the anchor.

13. If required, insert an extension into the 700H drive adapter and secure it with the supplied drive pins.

14. Lift the driver and anchor onto the anchor previously installed into the ground, so that the sleeve of the extension passes over the end of the anchor protruding from the ground, and secure with suitable bolts.

15. Repeat the process of screwing the anchor into the ground, whilst taking note of the torque on the pressure gauge.

16. As the anchor descends you will see an increase in torque. Each job will have a specified minimum torque and/or depth of pile. Generally the minimum torque should be maintained over at least 3 revolutions when installing compression piles.

17. When running at full speed, the torque gauge will be inaccurate. In order to obtain an accurate torque reading, stop the driver completely and then start driving again slowly. The most accurate torque reading can be seen when the driver first starts turning.

18. Once the correct torque and/or depth is reached, stop the driver and remove from the anchor.

# MAINTENANCE

## Service Schedule

The service schedule of machine items is as follows:

Service Item		First 50 hour service	Service Interval			
			10 Hours <i>Daily</i>	50 Hours <i>Weekly</i>	500 Hours <i>6 Months</i>	1000 Hours <i>Annually</i>
Engine	Oil Level		Check			
	Oil Leaks		Check			
	Fuel Pipes and Clips			Check		
	Fuel Filter				Change	
	Oil and Filter	Change			Change	
	All Hoses				Check	
	Radiator				Clean	
	Air Cleaner Outer Element				Change	
Hydraulics	Hydraulic Oil		Check			Change
	Hydraulic Oil Return Filter	Change			Change	
	Hydraulic Hoses			Check		
	Quick Couplers		Check			
Other	Lubricating Points			Grease		
	Wear Pads			Check		
	Wear Pad Tensioning Bolts			Check		

## Daily Service Items

### Hydraulic Oil

The machine is powered by Hydraulic Oil. Clean oil and filters are essential for reliability and performance.

The machine runs on **HLP 32 Grade Hydraulic Mineral Oil**. Make sure you use the correct grade for the ambient conditions and only top up with the same make and grade.

Hydraulic oil level and temperature is displayed on the sight gauge on the top of the oil tank. This should be monitored throughout the working period of the machine to ensure the oil does not overheat or run out.

If the oil level is below the minimum, it requires refilling.

To refill the hydraulic oil:

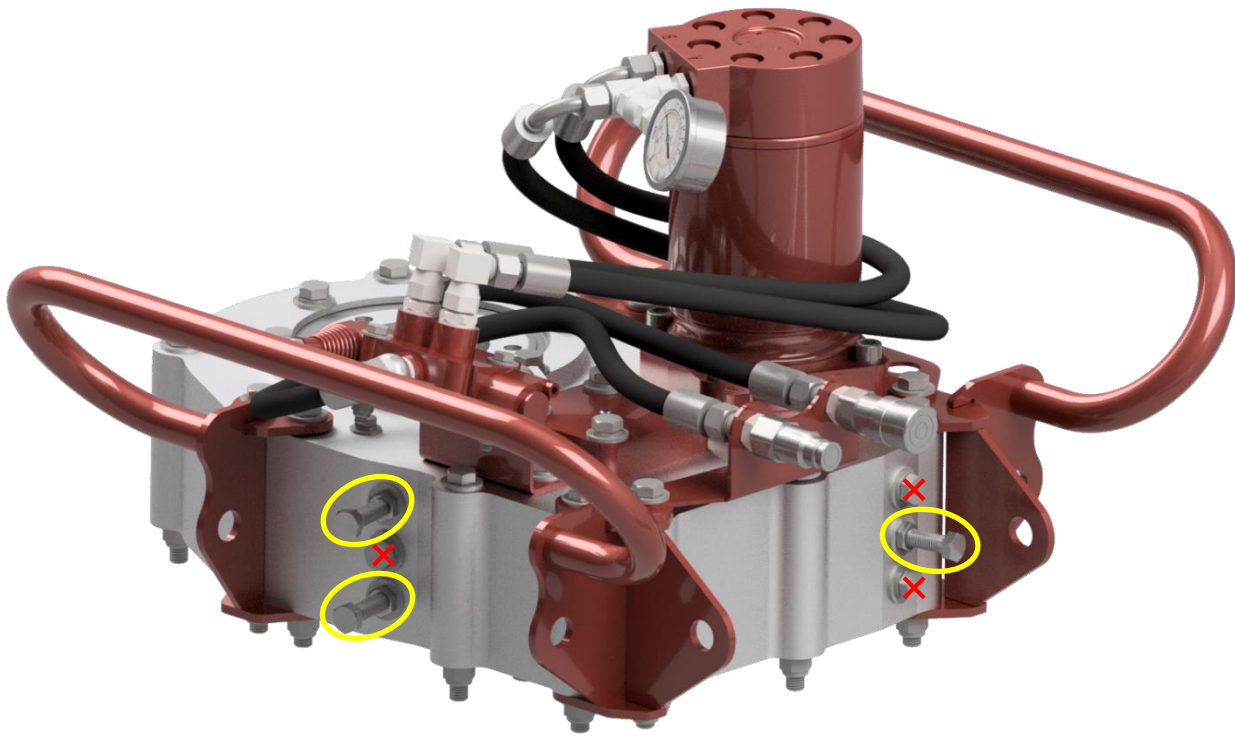
1. Ensure that the machine is switched.
2. Unscrew the tank filler breather port.
3. Fill with HLP 32 Grade Hydraulic Mineral Oil.
4. Replace the filler lid.

### Drive Chain Tension

Operating the valve directs this flow to the motor which drives the hollow centre sprocket via 3 chains. The chains must be kept tight; an aperture in the chain case allows you to check the tension and adjust as & when necessary.

Each chain is tensioned with a plastic wear pad inside the driver. Tension is adjusted via the tension bolts that protrude from the side of the case, as shown circled below. Turning the bolts clockwise will push against the chain and therefore increase tension. It is important not to overtighten these bolts; in most cases tightening by hand is sufficient. Once adjusted the lock nut must be tightened to prevent losing adjustment.

**Note: The two tensioning bolts on the same side must be set at the same distance from the body to ensure both chains work equally.**



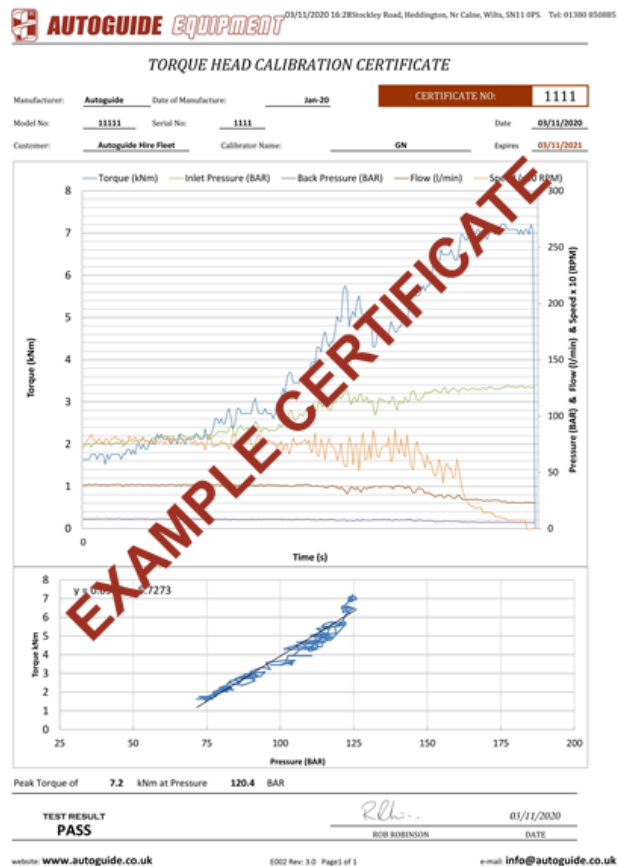
Inspection holes are present on the top and bottom of the 700H driver. These are covered with plastic plugs to prevent debris from entering the driver. If removed, these plastic plugs must be reinstalled before use.

## Calibration

Each 700H is supplied with a Torque Head Calibration Certificate showing the performance of the individual unit. To ensure the continued life and quality of work of the driver, the 700H hand held must be returned to ABC Anchors at yearly intervals for testing and calibration.

Hydraulic motor performance changes over time, a calibration will ensure that the correct torque is being produced and that the gauge matches this performance. This in turn will ensure that anchors are installed correctly to the specified torque at each job by the operators.

**Note: Each certificate states the expiry date for the units calibration. The unit should be returned to ABC Anchors for calibration before this date.**



# TROUBLESHOOTING

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Symptom	Possible Cause	Action
Jerky	Cold Oil	Allow time to warm up
	Air in Pipes	Check oil Level
	Non Compatible Quick Couplers	Use matched pairs
Slow	Non Compatible Quick Couplers	Replace
	Hoses too small for flow	Replace
	Wrong Model Powerhead	Select appropriate model
Poor Torque	Low Hydraulic Pressure	Carry Out Flow and Pressure Check
	Excessive Oil Temperature	Check Pump, Check Hose Sizes, Use Correct Powerhead
	Back Pressure	Ensure hoses are free flowing and not kinked. Check 2 bar max back pressure. Replace Relief Valve.
Oil leaks	Loose Fittings	Tighten Up Fittings
	Leaky Connections	Reseal or check Configuration
	Pressure Too High	Use compatible head and fittings

# END OF LIFE

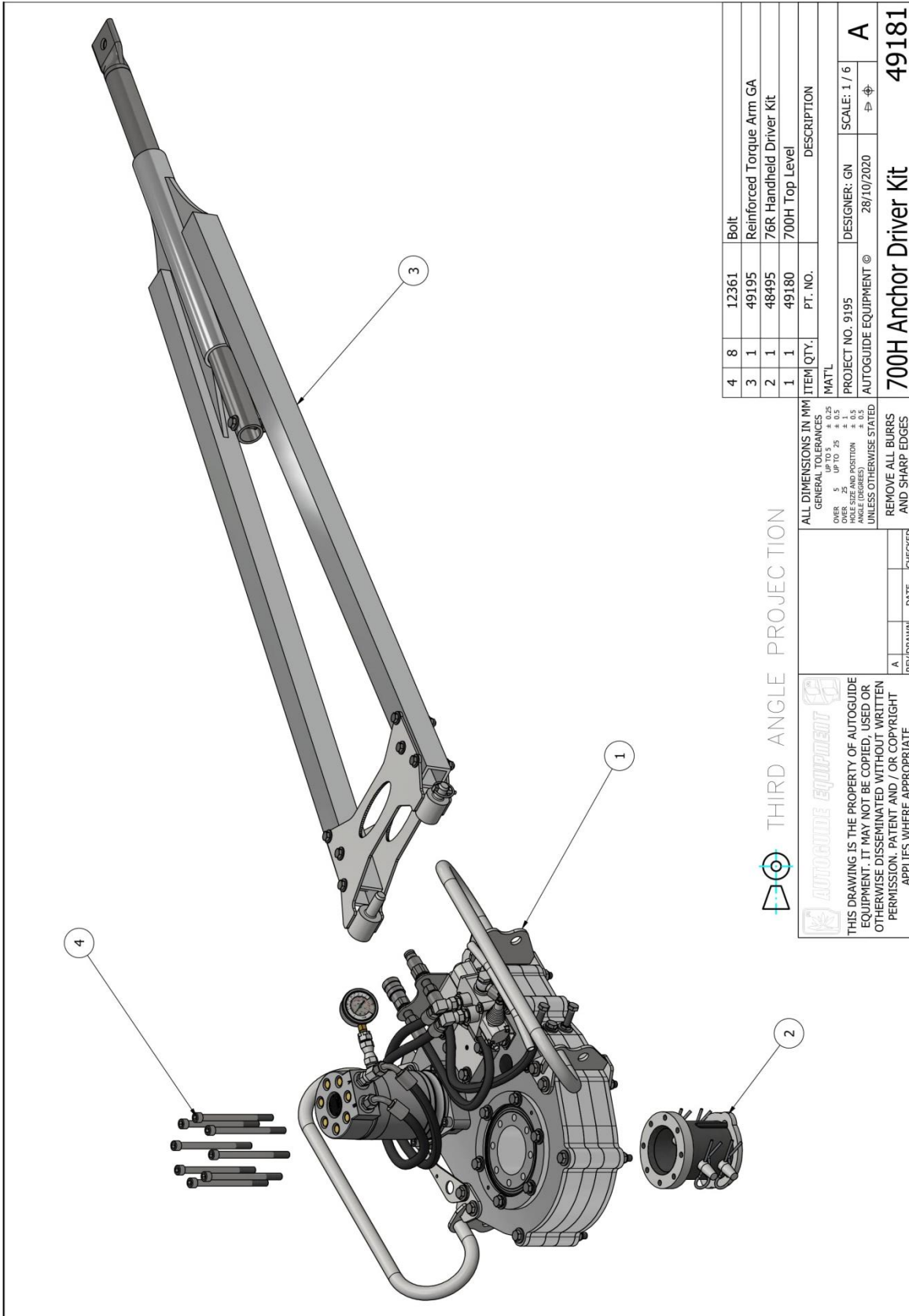
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When the machine reaches the end of its useable lifetime it is important that the independent elements of the machine are reused, recycled or disposed of suitably.

Component	What to do?
Metals	All metals should be recycled with an appropriate scrap metal merchant, preferable sorted into metal type.
Electronics	All electronical components should be recycled at an appropriate facility according to the WEEE Directive and Regulations 2013
Oils	Oil waste is classed as Hazardous and therefore must be stored separately and according to legal regulations (that differ dependent on country). It must be disposed of by a suitable Waste Oil collection company.
Hydraulic Hoses	Hydraulic hoses should be drained of oil, metal ends removed and then recycled with a suitable specialist recycling company. Metal ends can be sent to metal recycling centers.
Plastics	All plastics should be sorted into recyclable and non-recyclable and then either sent to suitable recycling facilities or landfill.

# SPARE PARTS LIST

## Hydraulic Anchor Driver 700H Kit



ITEM QTY.	PT. NO.	DESCRIPTION
4	8	Bolt
3	1	Reinforced Torque Arm GA
2	1	76K Handheld Driver Kit
1	1	700H Top Level

PROJECT NO. 9195	DESIGNER: GN	SCALE: 1 / 6
AUTOGUIDE EQUIPMENT © 28/10/2020		
700H Anchor Driver Kit		49181

THIRD ANGLE PROJECTION

ALL DIMENSIONS IN MM  
 GENERAL TOLERANCES  
 OVER 5 ± 0.5  
 UP TO 25 ± 0.3  
 UNDER 25 ± 0.2  
 HOLE SIZE AND POSITION ± 0.1  
 ANGLE (DEGREES) ± 0.5  
 UNLESS OTHERWISE STATED

REMOVE ALL BURRS AND SHARP EDGES

REV/DRAWN DATE CHECKED

A

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# Hydraulic Anchor Driver 700H

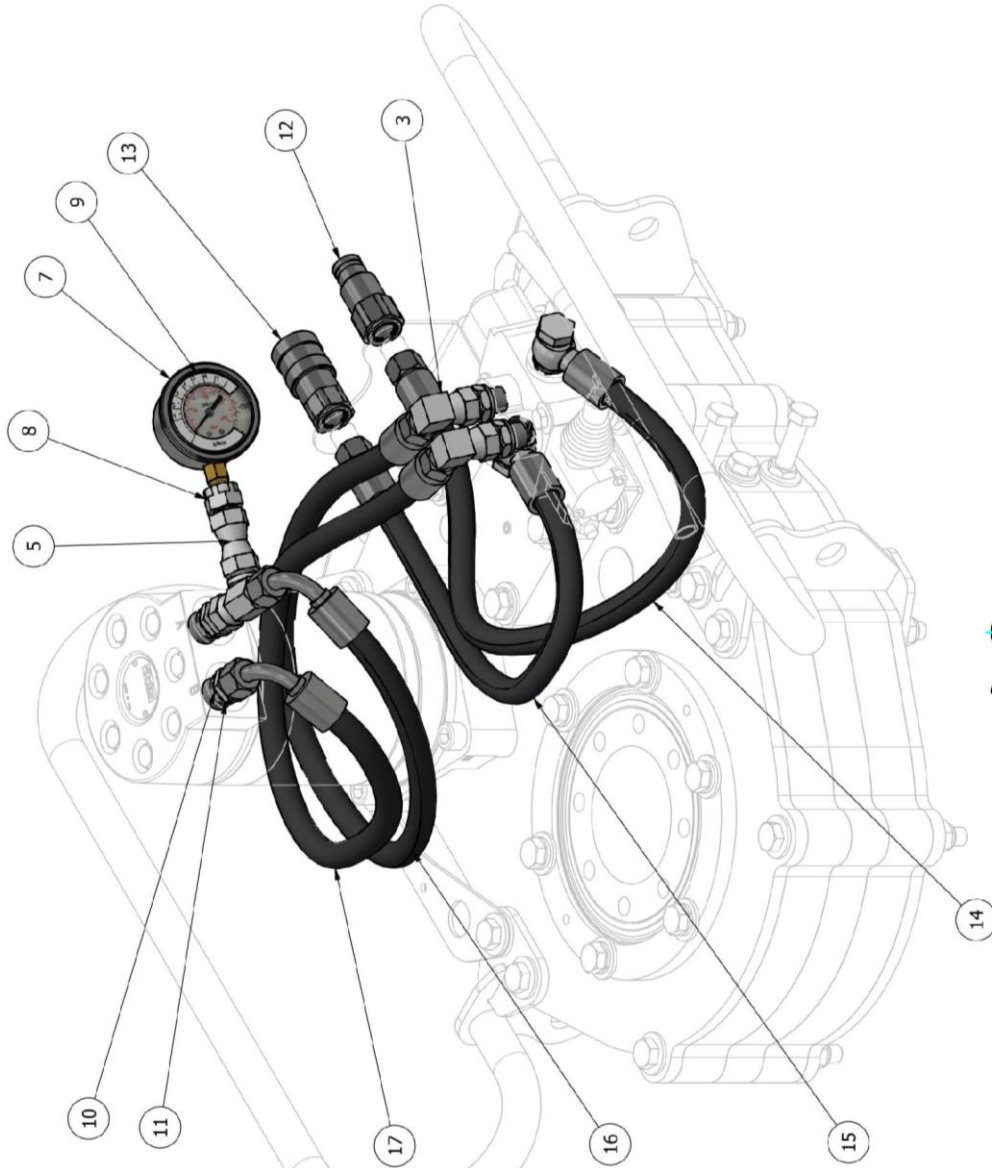
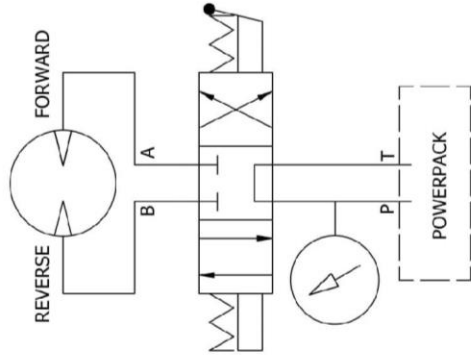
WASHERS TO REMOVE PLAY FROM TENSIONER  
PLACE ABOVE TOP TENSIONER  
AND BELOW BOTTOM TENSIONER

THIRD ANGLE PROJECTION

46	3	12364	Bolt Set	39	2	03023	Bolt Set
45	8	03816	Bolt Set	38	4	03760	Bolt Set
44	4	02521	Washer Spring	37	3	07488	Bolt Hex
43	26	02529	Washer Spring	36	12	02774	Nut Nyloc
42	2	10725	Screw Grub	35	9	08896	Bolt Hex
41	4	05487	Bolt Cap	34	2	02454	Bolt Hex
40	13	02291	Bolt Set	33	2	02496	Nut Nyloc
				32	8	02977	Washer
				31	3	03944	Nut Lock
				30	55	02105	Washer
				29	3	03866	Bolt Hex
				28	2	02277	Bulkhead
				27	4	26595	Plastic Plug M35
				26	1	48712	700H Small Chain
				25	2	48711	700H Large Chain
				24	1	33004	Motor
				23	1	02978	Valve
				22	2	12326	Bearing
				21	2	11644	Bearing
				20	1	48681	Right Handle WA
				19	1	48683	Spare Pin Holder
				18	1	48686	Left Handle WA
				17	1	45818	Valve Handle WA
				16	1	48677	Valve Bracket 700H
				15	1	45843	Motor Mount WA
				14	2	45822	Tension Brace
				13	2	45837	Pivot Tube
				12	3	45821	Tensioner Wear Block
				11	1	45869	12T Chain Sprocket
				10	2	45834	Retainer Ring
				9	1	48684	Main Sprocket WA
				8	2	45857	Bearing Housing Intermediate
				7	1	45847	Intermediate Sprocket WA
				6	1	49161	Hose Bracket 700H WA
				5	1	48699	Bottom Slice 700H
				4	1	48696	Middle Slice 700H
				3	1	48695	Top Plate 700H
				2	1	48693	Bottom Plate 700H
				1	1	48694	Top Slice 700H


ALL DIMENSIONS IN MM  
GENERAL TOLERANCES  
OVER UP TO 3.0 ± 0.25  
OVER 3.0 UP TO 25 ± 0.5  
OVER 25 UP TO 75 ± 0.5  
OVER 75 UP TO 150 ± 0.5  
OVER 150 UP TO 300 ± 0.5  
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OVER 12000 UP TO 200 ± 0.5  
OVER 200 UP TO 300 ± 0.5  
OVER 300 UP TO 600 ± 0.5  
OVER 600 UP TO 1200 ± 0.5  
OVER 1200000

# 700H Hydraulics



ITEM	QTY.	FT. NO.	DESCRIPTION
17	1	49174	Hose 4
16	1	49173	Hose 3
15	1	49172	Hose 2
14	1	49168	Hose 1
13	1	02401	Quick Release M
12	1	03624	Quick Release F
11	2	08138	Adaptor
10	2	08140	O Ring
9	1	49175	700H Gauge Sticker
8	1	08908	Gauge Adaptor
7	1	09056	Guage
6	2	05601	Fitting
5	1	04265	Adaptor
4	1	02188	Tee
3	2	01120	Elbow
2	2	01095	Adaptor
1	8	01812	Seal Bonded

THIRD ANGLE PROJECTION


  
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ALL DIMENSIONS IN MM  
 GENERAL TOLERANCES  
 OVER 5 UP TO 25 ± 0.25  
 UP TO 25 ± 0.5  
 HOLE SIZE AND POSITION ± 0.5  
 ANGLE (DEGREES) ± 0.5  
 UNLESS OTHERWISE STATED

REMOVE ALL BURRS AND SHARP EDGES  
 A REV/DRAWN DATE CHECKED

PROJECT NO. 9195 DESIGNER: GN SCALE: 1 / 3  
 AUTOGUIDE EQUIPMENT © 27/10/2020  
**700H Hydraulics**  
**49169**

# 700H Torque Arm

ITEM	QTY.	PT. NO.	DESCRIPTION
10	6	02479	Bolt Hex
9	6	02523	Nut Nyloc
8	12	02702	Washer
7	1	10791	Lynch Pin
6	1	01249	Bolt Hex
5	1	02774	Nut Nyloc
4	2	02105	Washer
3	1	39535	Torque Arm Inner Tube
2	1	42456	Torque Arm Reinforcement W/A
1	1	49191	Ally Torque Arm WA

**ALL DIMENSIONS IN MM**  
 GENERAL TOLERANCES  
 UP TO 5 ± 0.25  
 OVER 5 UP TO 25 ± 0.5  
 HOLE SIZE AND POSITION ± 0.5  
 ANGLE (DEGREES) ± 0.5  
 UNLESS OTHERWISE STATED

REMOVE ALL BURRS  
 AND SHARP EDGES

REV/DRAWN DATE CHECKED  
 A

**THIRD ANGLE PROJECTION**  
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**Reinforced Torque Arm GA 49195**  
**A**



# RISK ASSESSMENT – 400H & 700H HANDHELD

## Section 1: Assessment Information

<b>Assessment Date</b>	04/11/2020
<b>Activity / Item / Area</b>	400H and 700H Handheld
<b>Person at Risk</b>	Operator/User
<b>Total Number of People at Risk</b>	2+
<b>Responsible Person</b>	Installation Operative
<b>Assessor</b>	Sian Parsons

## Section 2: Likelihood/Severity of Injury

	Significant Risks	Likelihood	Severity	Residual Risk
1.	Injury caused by crushing	2	4	8
2.	Manual Handling	3	2	6
3.	Injury caused by rotation	2	3	6
4.	Injury caused by lifting	1	6	6

		Severity				
		Minor	Serious	Major	Fatality	Multiple Fatalities
Likelihood		1	2	3	4	5
Rare	1	1	2	3	4	5
Unlikely	2	2	4	6	8	10
Moderate	3	3	6	9	12	15
Likely	4	4	8	12	16	20
Certain	5	5	10	15	20	25

Low Risk	Moderate Risk	Significant Risk	High Risk
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Likelihood X Severity = Residual Risk

### Section 3: Control Measures

1. Appropriate PPE to be worn including Hard Hat, Eye Glasses, Gloves and High Visibility Clothing.
2. Installation operator to insure the area is clear from other equipment
3. Installation operator to always ensure that the unit is operated by a minimum of 2 people
4. Hands will be kept away from connecting and moving parts. Connecting parts such as pins will be maintained in good order. Safety clips and other appropriate fittings will be fitted at all times.
5. Operators will ensure that all unauthorised persons are kept away from the work area, by bounding off the area if practicable.
6. Operators to ensure they have checked the environment they are working in. Overhead cabling utilities services etc.
7. Operators to ensure personnel stand the correct side of the torque arm at all times and ensure that the arm is securely attached before operating the unit.
8. All fittings to be kept in good working orders, checked for tightness and PPE will be worn when fitting, maintaining or repairing. Any faults will be reported and a record kept.
9. All users to have appropriate training to warn of potential hazards and on maintenance and how to use the equipment in a safe and effective behaviour.

### Further Action Required

NO FURTHER ACTION REQUIRED
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### Prepared By

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ABC Anchors





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