

# ECO-Jack® S, G/FLT, XR User manual

Machine Claw Jack

 www.eco-jack.com

**!** Please read and comply with this user manual and the safety warnings prior to the use of these claw jack to protect you and others.

**●** This equipment must not be used to carry or lift personnel.

**⚠ WARNING**

**IMPROPER USE OF ECO-JACK® CLAW JACKS CAN RESULT IN SERIOUS INJURY**

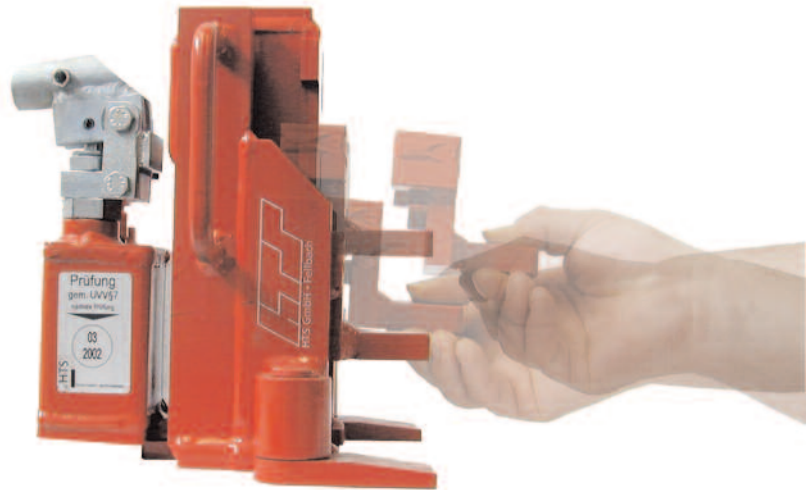
**TO AVOID INJURY:** ■ Always make sure that the load is fully supported by the claw or top plate ■ Jack to rest on solid ground in VERTICAL position ■ Jack only with the pivoting feet facing towards the load ■ Never exceed maximum lifting capacity ■ No side load permissible ■ Keep body parts from beneath the load and all moving parts at all times ■ Bystanders should keep clear of the load (to a min. of 1,5 times the highest point of the load) ■ Support the load with suitable supports ■ Lift on fixed parts of the load ■ Do not use the jack if it is damaged or without a valid inspection certificate ■ Always use recommended lubricants ■ Always use genuine HTS replacement parts ■ Periodically check lubricant level ■ Read the user manual provided with the jack and follow all instructions before operation ■ The user is responsible for condition of all warning labels ■ These instructions are guidelines and you should always refer to the operating manual if in doubt.

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## Thank you

for choosing an ECO-Jack Hydraulic Claw Jack.  
A quality product made in Germany by HTS.

The ECO-Jack enables you to lift heavy loads, machines, and other items safely. You may move them easily by using the HTS ECO-Skate Load Moving Systems (call your HTS supplier for details).



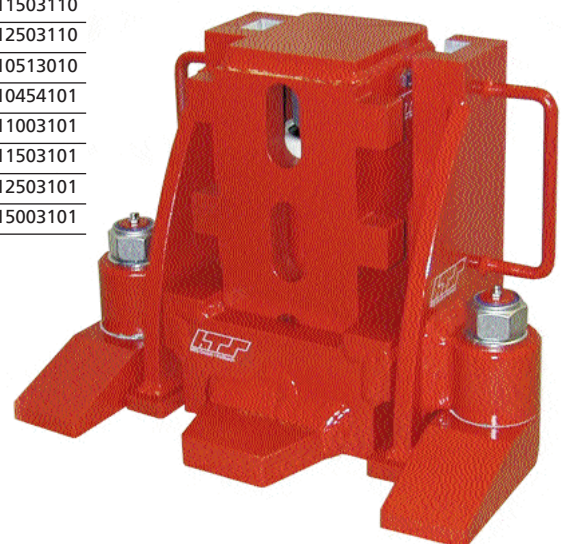
- 'S' Series ECO-Jack's - are universal hydraulic claw jack's with capacities from 3,000 to 25,000kgs, these jacks have an integrated hand pump.
- 'G'/'FLT' Series ECO-Jack - is a specially designed fork truck jack with an extended claw, available with 5,000kgs capacity.
- 'XR' Series ECO-Jack's - are light weight universal claw jack's for use with external hand or electric pump. Capacities from 4,500 to 50,000kgs.

The following HTS claw jacks are available:

Type	Capacity (kgs)	Weight (kgs)	Dimensions LxWxH (mm)	Height of claw (mm)	Pressure req. (bar)	Oil (ltr.)	Part-No.
EJ30-3S	3,000	15,0	198x207x250	12	520	0,30	010305010
EJ60-4S	6,000	19,0	216x228x252	15	520	0,40	010504010
EJ100-3S	10,000	28,0	271x277x250	20	520	0,50	011003110
EJ150-3S	15,000	50,0	345x328x316	25	520	0,70	011503110
EJ250-3S	25,000	72,0	388x387x330	30	520	0,90	012503110
EJ50-3G/FLT	5,000	22,0	282x237x262	25	520	0,40	010513010
EJ45-4XR	4,500	13,5	161x228x252	15	700	0,10	010454101
EJ100-3XR	10,000	23,0	194x277x283	20	700	0,30	011003101
EJ150-3XR	15,000	40,0	245x328x316	25	700	0,40	011503101
EJ250-3XR	25,000	60,0	267x287x330	30	700	0,60	012503101
EJ500-3XR	50,000	165,0	375x540x405	35	700	1,20	015003101

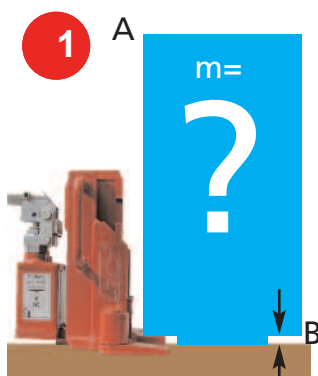
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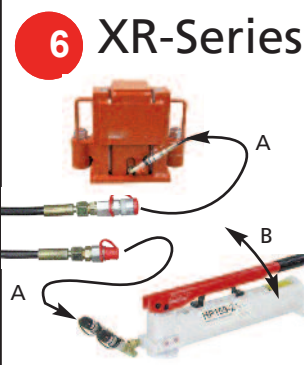
# ECO-Jack<sup>®</sup> S, G/FLT, XR User Manual

## Machine Claw Jack



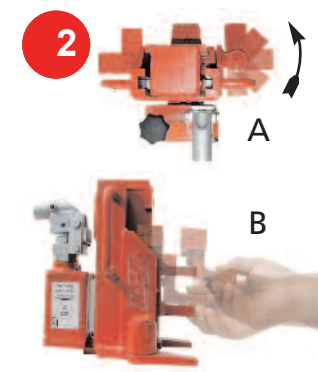
Before you start using your new ECO-Jack please check the following:

- the weight you have to lift (A) ?
- center of gravity ?
- which claw height fits best (B) ? (Please check with table on page 1)
- The area where the jack is positioned should be even for the whole base area including the support legs.



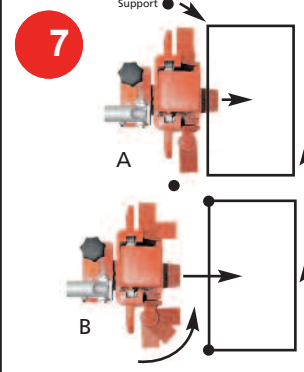
To lift and lower loads with the XR-Series you have to use an external pump.

- This operating is carried out by:
- connecting the pump (hand or power) to the ECO-Jack with a high pressure hose (A).
  - then lift up the load moving the lever as described in 3 (B).
- The same is valid to lower the load. Open the valve from the external pump in the direction is given. Prior to disconnecting the jack from the pump ensure that the jack is in the lowest position.



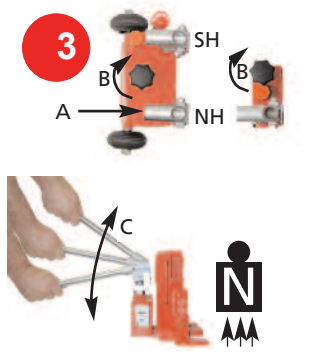
When using the ECO-Jack you always:

- put the swiveling legs to the front of the jack (A);
- then locate the lifting claw in the correct position (B). To do this you have to lift up the claw, pull it out and push it back into the desired position and lower the claw until it cannot go down any further.



In cases where the swiveling legs have no space you should consider the following:

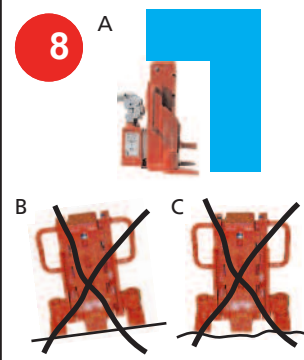
- spread the legs to the outside (never to the back) and lift the load above the height of the legs. Place a piece of wood underneath the load (A).
- and lower the load onto the wooden blocks. Then swing the legs to the front and continue the lifting process (B).



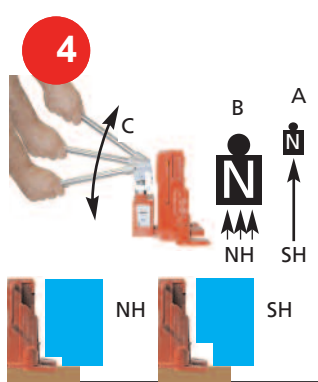
Determine the position you want your ECO-Jack at the base of the load.

! The load must not be positioned on the welding or cast radius of the claw !

- Position the handle in the slot of the pump head (A),
- close the valve clockwise (B) then pump the lever up and down for regular stroke NH and fast stroke SH (C).

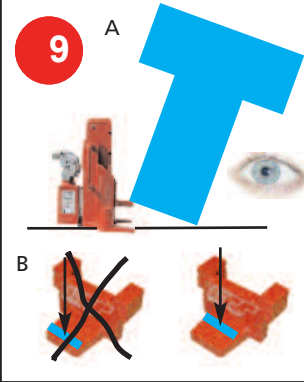


- Where there is sufficient height under the load you can also use the top plate (head) of the jack to lift (A).
- Use the ECO-Jack only on even floors (never on inclined floors), otherwise the claw jack including the load could tip (B).
- Never use the ECO-Jack on uneven or rough surfaces. This could cause damage to the jack and the surface of the floor (C).

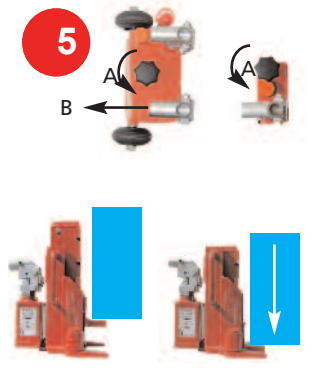


Fast stroke SH starting at EJ150-3S with 3-times the speed of the regular stroke NH.

- lifts the claw very fast in the required position under the load without moving the claw itself. To lift the load the fast stroke is unsuitable (A).
- Use the regular stroke to lift the load as described in 3 (B).
- Move the lever as described before (C).



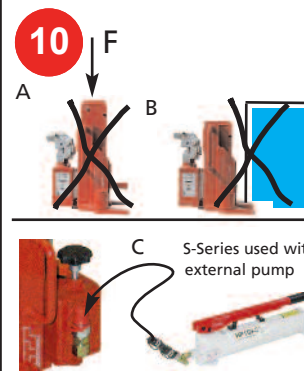
- If you lift one side of a top-heavy object the load could tip over (A). Watch carefully the angle of the load and if you see problems lower the load and use more than one or centrally controlled jacks.
- The load must never be placed on the front area of the claw (B). Always place the jack in a position that maximises claw contact but never on the welding or cast radius of the claw.



To lower the lifted load

- turn the valve carefully and slowly anti- clockwise to open the valve (A).
- and put the lever away if necessary (B).

! To avoid damage to the guides and extend the lifetime of the jack please make sure that the lowering speed is slow.



- Never lower a load from a crane or fork lift onto the ECO-Jack. This could cause overload and seriously damage the jack (A).
- Lift up the load only on heavy parts such as frames, never on sheetmetal covers because they could get damaged (B).

- If you work with external pumps on a S-Series ECO-Jack you must close the valve as described in point 3. Use the valve of the pump to lower the load (C).

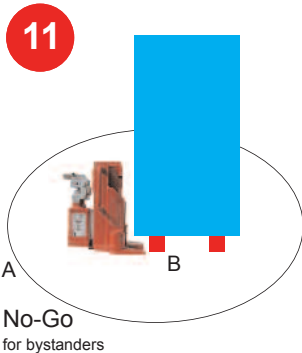
Please read and comply with all of the following **Safety - Warnings**, this is for everyone's safety.

**⚠ WARNING**

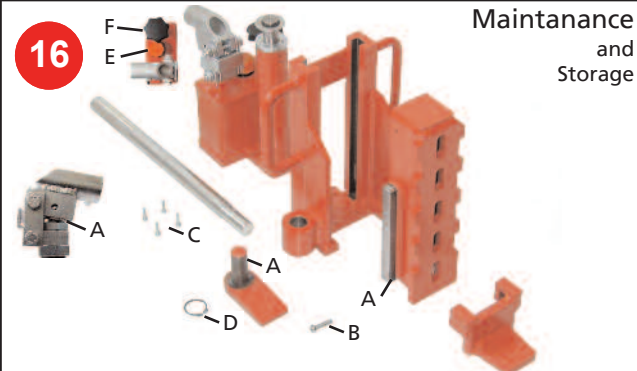
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 In all circumstances consider "SAFETY FIRST" © 2003 HTS GmbH

**15** Before you start working you should fully understand that lifting and shifting heavy loads brings different risks and is dangerous. Therefore please follow this manual, ensuring that everyone who is using this equipment has fully read and understood this manual and the safety warnings. Nobody should use this equipment without reading this manual. Think about what you want to do and how you want to do the job prior to starting - so that everybody involved knows what is going on. Do not operate this equipment if you are ill, feeling sick or tired, or under the influence of alcohol or drugs. When you work under such condition you might harm yourself and others, or even cause life threatening injuries. An annual safety inspection of the jack should be carried out.



**11** Always make sure that bystanders and children are away from the work area. Cordon off a No-Go area with cones or tape etc. The NO-GO area must be the area of the load plus a radius around the load of at least 1,5 times the highest dimension of the load. This is the operators responsibility (A) Make sure that the load is supported during the lifting and lowering process (B). Under load the jack should never be left unattended and should stay in the same position for only a short period of time.

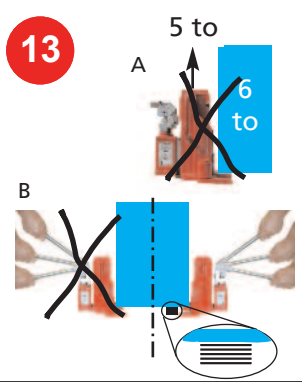


### Maintenance and Storage

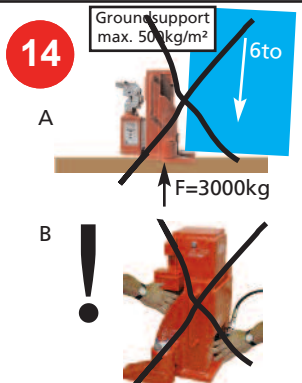
**16** Grease all assigned areas at least once per year depending on the use of the jack. We recommend an annual oil change. This should be carried out as part of the yearly safety inspection. Procedure for oil change: Lift up the jack a little and release the retaining screw (B). Open the valve and push the lifting unit back to the lowest position. Take out the lifting unit. Release the four screws on the bottom of the jack (C) which loosens the cylinder and pump in order to fully extract. Open C-clip (D) and remove the legs (not necessary if you have grease nipples on legs). Open the oilscrew (E) incl. valve and if necessary take out valve (F). Recycle the old oil according to local environmental laws. Fill with the amount of oil stated on page 1 into the tank but not more than a maximum of 2-3 cm between the top and the oil level. **Storage:** always store in the upright position and in a dry area.



**12** If the load is lifted and you need to work on the load, always release the pressure from the jack and lower to load onto wooden supports. Never put arms, legs, head etc. under lifted loads (A), wear protective footwear (B), wear a helmet if necessary (C), wear safety glasses if needed (D), wear gloves if necessary (E), wear a hair net if you have long hair and fix loose cloth (i.e. ties) Comply with all other safety warnings and other safety signs in the working area.



**13** The jack will not lift loads above the rated capacity due to the built in safety valve (A). If you use more than one jack you should support the load gradually step by step (see right) to prevent an unbalance load with different loads on each jack. Failure to do so could cause overload on one jack and the load might tip (B).



**14** The ground support should be equal to the force which is distributed through the base area of the jack. Overload could damage the surface of the ground which could result in a tip of the load (A). Never put your arms and hands into / under moving parts of the jack if loaded or unloaded (B). The XR-Series has a pull back system. **Attention** Be aware of the dangers of moving parts and the risk of injury to the hands

**17** Trouble shooting

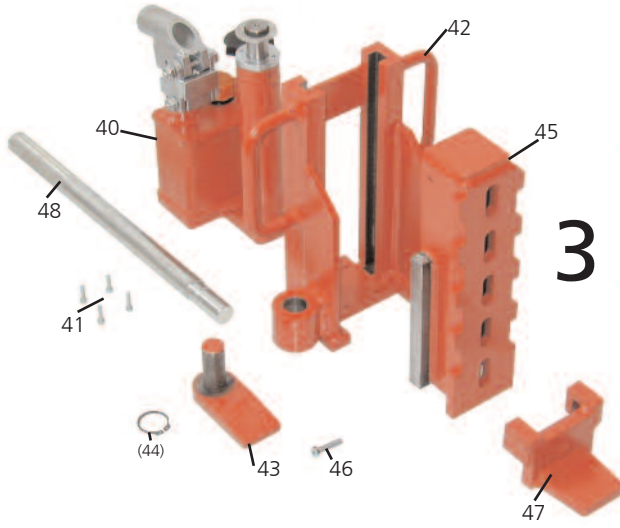
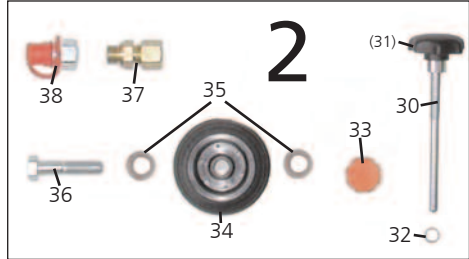
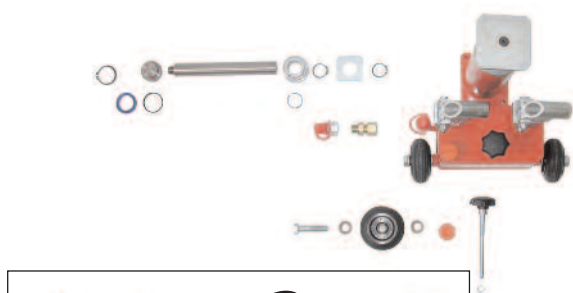
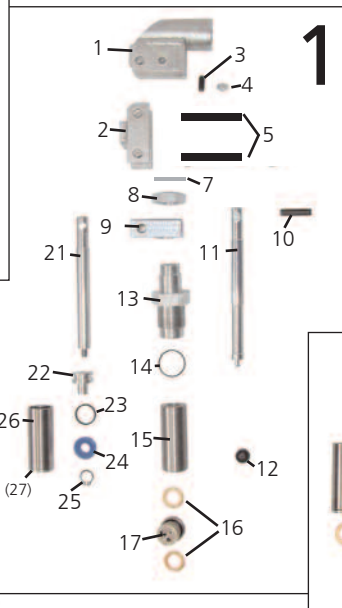
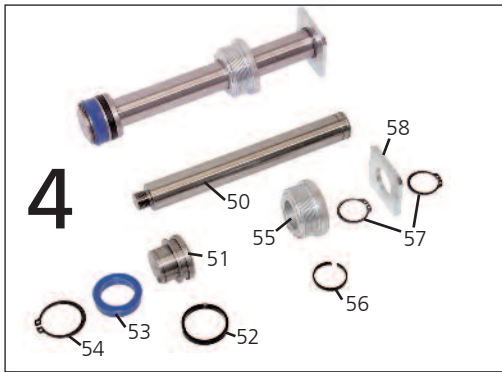
What if?	Reason	How to solve..
Load can be only partly lifted.	To littel oil in the Tank.	Refill oil (see above)
Load can not be lifted at all.	Valve open	Close
	Capacity not sufficient	Use additional or stronger ECO-Jack model
	Safety valve loose	Tighten Pumpscrew
	Ball on valve does not seal	Press ball into bottom, close valve very tightly if necessary by using pliers
	Safety valve dirty	Take out and clean or replace
	Safety valve damaged	Take out and replace
	Head seal pump damaged	Take out and replace
Load lowers with valve closed	Safety valve dirty or damaged.	Take out and clean or replace
	Seal damaged	Take out and replace



# ECO-Jack<sup>®</sup> S, G/FLT, XR User manual

## Machine Claw Jack Spare part list

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Please supply with your order the correct part number, quantity required and description as well as the type of the jack and serial number. If a repair has to be carried out by HTS please send only the defective parts - Thank you.

**Spare parts, universal**

Pos.	Description	Qty	EJ30-100S	Qty	EJ150-250
<b>Diagram 1:</b>					
1	Pump joint 1	1	951057100	1	951057100
2	Pump joint 2	1	951057200	1	951057200
3	Spring pressure ball	1	990061501	2	990061501
4	Nut for 3	1	990193010	2	990193010
5	Joint screw	2	990193009	4	990193009
6	Joint nut	2	990198001	4	990198001
7	Distance washer	1	990112001	2	990112001
8	Nut M18x1	1	951059200	2	951059200
9	Jointbox	1	951057300	2	951057300
10	Pin	1	990114001	2	990114001
11	Pump Ram NH	1	951059300	1	951059300
12	Ram seal	1	991005000	1	991005000
13	Screwed socket ram	1	951059100	2	951059100
14	O-Ring pump	1	991004002	2	991004002
15	Cylinder pump NH	1	951059400	1	951059400
16	copper seal	2	990176001	4	990176001
17	Safety valve	1	991200520	2	991200520
21	SH-pump ram	-	1 952559300	-	1 952559300
22	SH-piston	-	1 952559500	-	1 952559500
23	SH-piston guide	-	1 991001251	-	1 991001251
24	SH-U-seal	-	1 991003251	-	1 991003251
25	SH-C-clip	-	1 990147008	-	1 990147008
26	SH-Cylinder pump	-	1 952559400	-	1 952559400
27	SH-Cylinder adapter	-	1 952559600	-	1 952559600
<b>Diagram 2:</b>					
30	Valve	1	951058000	1	951058000
31	Stargrip	1	990063100	1	990063100
32	O-ring valve	1	991004001	1	991004001
33	Oil screw	1	990055001	1	990055001
34	wheel	-	2 110521101	-	2 110521101
35	wheel washer	-	4 990112001	-	4 990112001
36	wheel screw	-	2 990193011	-	2 990193011
37	Stud coupling S/G-FLT	1	991102007	1	991102007
38	Stud coupling XR	1	991102006	1	991102006
39	Male hose coupler	1	080270001	1	080270001
<b>Diagram 3:</b>					
48	Lever pump	1	951057400	1	951057400

**Spare parts, specific**

Pos.	Description	Qty	EJ30	EJ45/60	EJ100	EJ150	EJ250	EJ50G
<b>Diagram 3:</b>								
40	Pump/cylinder S/G-FLT1	950320000	950620000	951020000	951520000	952520000	950520000	-
	Cylinder XR	1	-	991103045	991103100	991103150	991103250	-
41	Screw cylinder S/G-FLT4	990191019	990191019	990179007	990179007	990179006	990179006	990191020
	Screw cylinder XR	2	-	990191022	990191023	990191024	990191025	-
42	Frame S/G-FLT	1	950310101	950610101	951010101	951510101	952510101	959510101
	Frame XR	1	-	950610101	951110101	951510101	952510101	-
43	Swiveling leg	2	950510201	950610201	951010201	951510201	952510201	-
44	C-Clip/Nut+washer leg2	990147007	990147007	990147006	990147006	990147002	990147004	-
45	Lifting unit S/G-FLT	1	950330000	950630000	951030000	951530000	952530000	959530000
	Lifting unit XR	1	-	950630000	951130000	951530000	952530000	-
46	Screw lifting unit	1	990179007	990179008	990179006	990179001	990179001	990179008
47	Claw	1	950340000	950640000	951040000	951540000	952540000	959540000
48	Lever	1	951057400	951057400	951057400	951057400	951057400	951057400
<b>Diagram 4:</b>								
50	Piston rod	1	950350300	950650300	951050300	951550300	952550300	950550300
51	Piston	1	950350200	950650200	951050200	951550200	952550200	950550200
52	Piston guide	1	991001030	991001050	991001100	991001150	991001250	991001050
53	U-Seal piston	1	991003030	991003050	991003100	991003150	991003250	991003050
54	C-Clip piston	1	990147007	990147002	990147005	990147009	990147010	990147002
55	Piston head	1	950350100	950650100	951050100	951550100	952550100	950550100
56	Piston head guide	1	991002030	991002050	991002100	991002150	991002250	991002050
57	C-Clip securing plate	1	990147007	990147006	990147002	-	-	990147006
	Screw securing plate	1	-	-	-	990179005	990179005	-
58	Securing plate S/G-FLT1	950350400	950550400	951050400	951550400	952550400	950550400	-
	Extended Piston XR	1	-	950550410	951050410	951550410	952550410	-

## EC-Declaration of Conformity

in accordance with Machinery Directive 98/37/ECC Appendix II A  
of the European Parliament and Council



We hereby declare, that the hydraulic claw jack, ECO-Jack

Type: EJ30S, EJ60S, EJ100S, EJ150S, EJ250S, EJ50G/FLT  
EJ45XR, EJ100XR, EJ150XR, EJ250XR, EJ300XR, EJ500XR  
EJ#: starting 980600

to lift heavy loads complies with the following EC-Machinery Directive:

EC-Machinery Directive i.d.F.  
Transposed harmonised Standards in particular:

91/363/EEC, Appendix I Nr. 1  
EN292 Part 1  
EN292 Part 2

The validity of this declaration will cease in the case of unauthorised modification without prior written agreement from the manufacturer. Furthermore, validity of this declaration will cease in case of the equipment not being correctly used and maintained in accordance with the supplied user manual.

HTS GmbH  
Ringstr. 28 phone +49-(0)711-3426679-0  
70736 Fellbach fax +49-(0)711-3426679-99  
Germany www.hts-direct.de

*Michael Koch*  
January 2002 Michael Koch

## ECO-Jack Quality / Test Certificate

Type	Capacity	Test pressure
<input type="checkbox"/> EJ30S	3.000kg	520 bar
<input type="checkbox"/> EJ60S	6.000kg	520 bar
<input type="checkbox"/> EJ100S	10.000kg	520 bar
<input type="checkbox"/> EJ150S	15.000kg	520 bar
<input type="checkbox"/> EJ250S	25.000kg	520 bar
<input type="checkbox"/> EJ50G/FLT	5.000kg	520 bar
<input type="checkbox"/> EJ45XR	4.500kg	700 bar
<input type="checkbox"/> EJ100XR	10.000kg	700 bar
<input type="checkbox"/> EJ150XR	15.000kg	700 bar
<input type="checkbox"/> EJ250XR	25.000kg	700 bar
<input type="checkbox"/> _____	_____ kg	_____ bar

Serial No.: **98** \_\_\_\_\_

We hereby declare, that the claw jack with the above stated serial number was tested with the marked test pressure. All Parts were tested and put through a quality control system. You must not exceed the capacity of the jack. Please read and comply with the provided user manual.

Site of test: Fellbach

Date of test: \_\_\_\_\_

Signature of Tester: \_\_\_\_\_



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In all circumstances consider "SAFETY FIRST"

© 2003 HTS GmbH

Please put your invoice date here: \_\_\_\_\_

your HTS supplier

Yearly recurrence inspection:

Date	Result	Work done	Test pressure/Capacity	Signature