

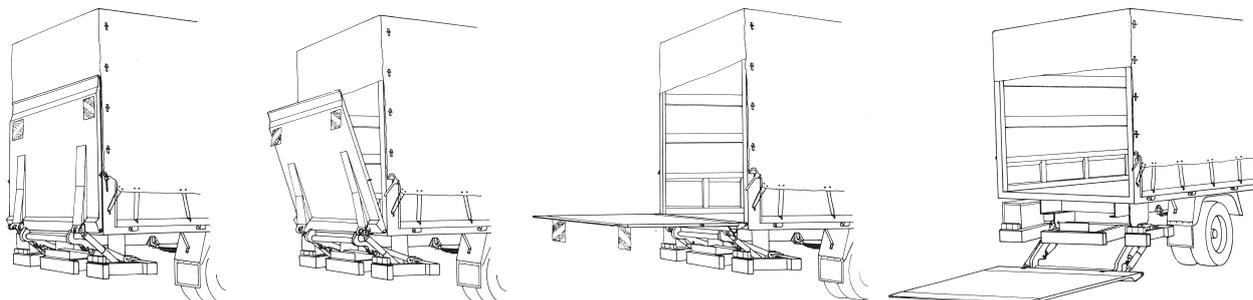
INSTALLER'S MANUAL FOR THE "AHT" STEEL TAIL LIFT

MODELS COVERED BY THIS MANUAL ARE:

L - 300ST/ST
L - 500ST/ST
L - 750ST/ST
L-1000ST/ST
L-1500ST/ST
L-2000ST/ST
L-2500ST/ST



L - 300ST/AL
L - 500ST/AL
L - 750ST/AL
L-1000ST/AL
L-1500ST/AL
L-2000ST/AL
L-2500ST/AL



SERVICE QUALIFICATIONS TO INSTALL THE STEEL TAILGATE LOADER

The installer should be well trained in the proper procedure for installing the AHT before beginning the installation.

Carefully read the manual **before starting to install** the AHT tailgate loader.

Only mature adults, age 18 and above, should install the AHT tailgate loader.

Installer should be well qualified for installing hydraulic equipment.

Installer should be well qualified for installing the electrical equipment.

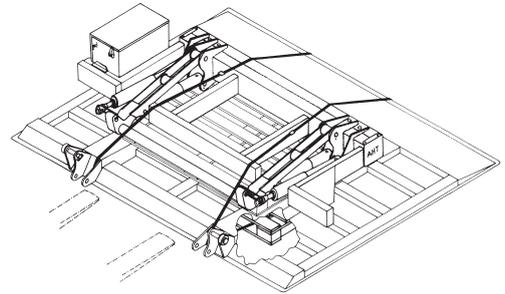
INSTALLATION GUIDELINES

- 1) Remove bumpers, lights etc. from rear of vehicle and cut out the rear of the frame, as shown in diagram, if necessary.
- 2) Place the platform on the rear of the vehicle, center the platform and securely clamp it, top and bottom.
- 3) Remove the primer coat on the underbody tube and mounting brackets so a good weld can be obtained.
- 4) Place the mounting brackets, on the underbody tube, near their final position. Raise underbody tube to its approximate final position and attach the lift arms to the platform with the pins provided.
- 5) Weld the mounting brackets as discussed in this manual.
1Overheating of the underbody tube will be caused by not following these directions and the Tilt Cylinder will not line up properly.
- 6) Mount the lift cylinders and the tilt cylinders to the platform, with the pins provided.
Adjust the clevis of the tilt cylinder to fit the platform.
- 7) Mount the platform lock, lights, license plates, warning flags, etc.

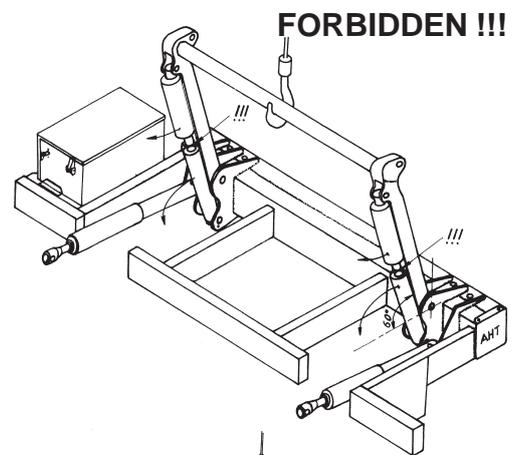
UNPACKING THE TAILGATE LOADER

A complete unit will be shipped on one pallet consisting of two main units::

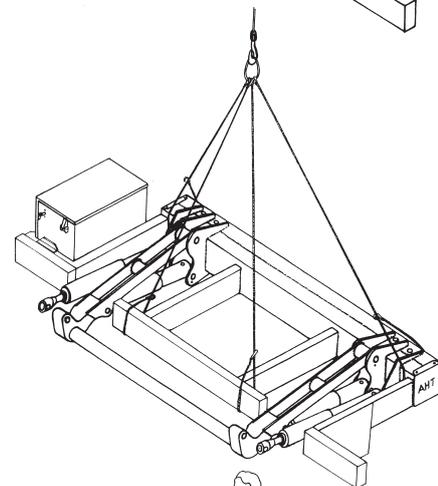
- (1) Platform
- (2) Main frame with lifting arms, cylinders and power pack.



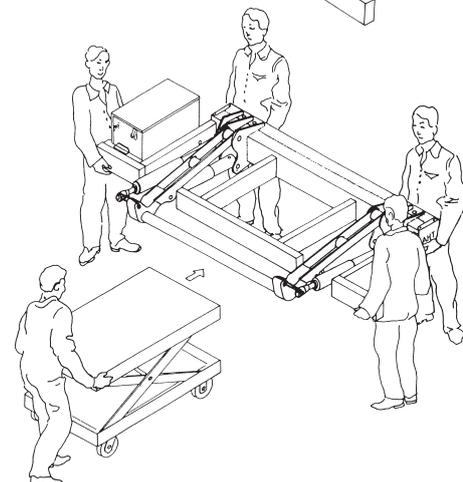
CAUTION: Never lift the Main Frame with the lifting arm at the stabilizer. (See Above)
The lifting cylinders will come apart. There is no limit to the stroke.
(Lift cylinder will be damaged).



Always lift the complete unit evenly, as shown in the drawing, being careful to raise the lift arms at the same time.



If manually lifting the unit, be sure the lift arms are secured. (See above)

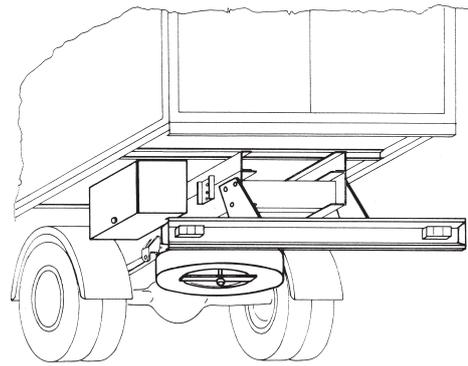


PREPARING FOR INSTALLATION

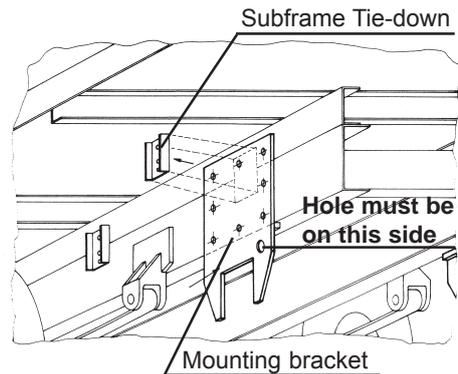
REPARING FOR INSTALLATION

Remove rear lights, bumper, tool box and spare wheel, if necessary.

Disconnect the battery cable to prevent damage to the battery while welding.

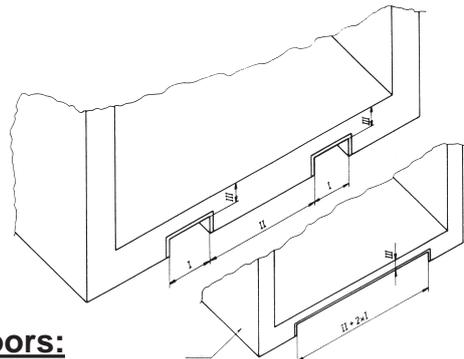


Remove any obstruction attached to the frame of the vehicle that would interfere with the installation. The mounting brackets will cover the mainframe and subframe.



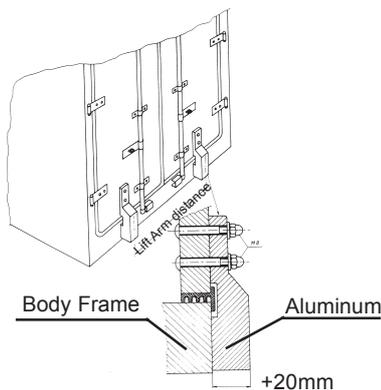
Installing on a truck body with roll-up doors or without rear doors:

Cut out the rear of the frame, if necessary, to match the dimensions I, II, and III as shown in the installation drawings. Reinforce the cut outs.

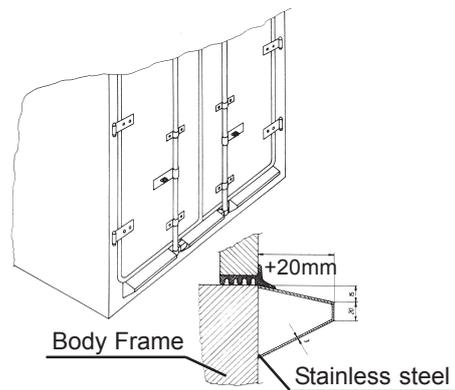


Truck bodies with rear doors:

(Version 1)



(Version 2)



Refrigerated bodies with swing doors need two stop brackets where the lift arms would touch the vehicle. When the doors are closed these stop brackets should cover the entire body frame as shown in the above drawing.

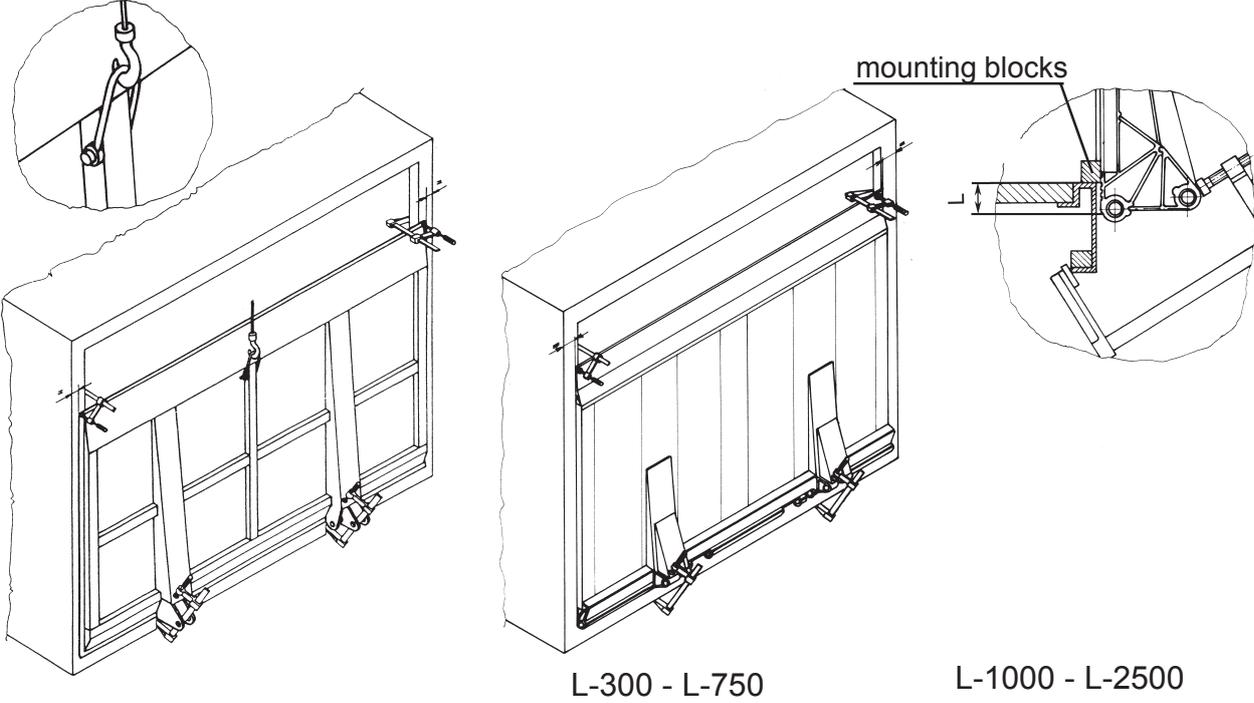
Refrigerated bodies with swing doors need an end profile, made from stainless steel, welded to the body as shown in the above drawing, on the right. Profile must be 1" deeper than door locks.

Cut outs are not required on either of these versions.

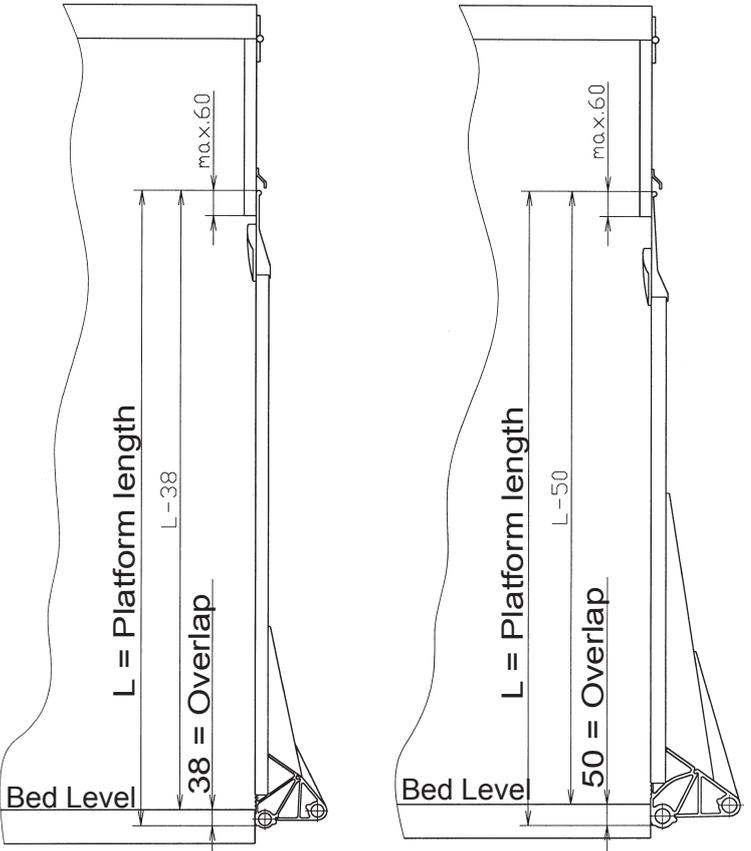
INSTALLATION INSTRUCTIONS

INSTALLING THE PLATFORM:

Lift the platform, using the mounting hole and crane, or forklift.
(Aluminum platform can be lifted manually with 3 or 4 people).
 Center the platform evenly on the rear of the vehicle.
 Two mounting blocks are welded on the platform to keep the platform at bed level.
 Both mounting blocks must make contact with the vehicle floor and then you must clamp the platform into place. Be sure to clamp the top and bottom on both sides.



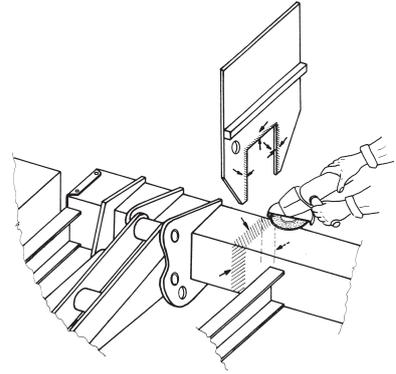
Model	Door Overlap L (mm)
L-300	38
L-500	38
L-750	38
L-1000	50
L-1500	50
L-2000	50
L-2500	50



INSTALLATION INSTRUCTIONS

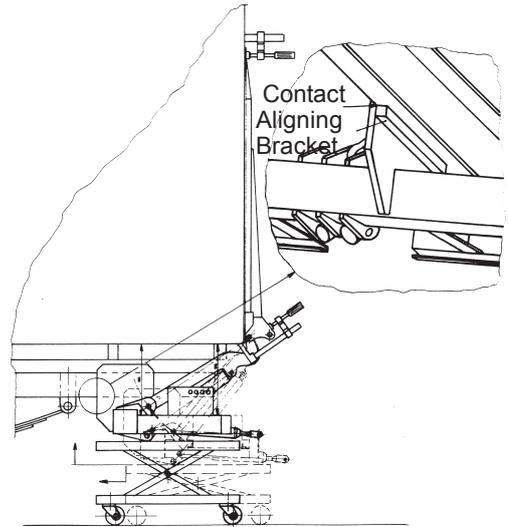
Preparing the underbody tube

Measure the vehicle main frame to determine where the mounting brackets will be welded.
 Remove the primer coat from the underbody tube so the mounting brackets can be welded.
 Remove the primer coat from the mounting brackets where they will be welded.



Welding the mounting brackets:

Move the mounting brackets, into place, on the outside of vehicle frame.
 Lift the main frame with a fork lift or floor jack until it is in the final position. The main frame will be parallel with the body. **Be sure the platform has not moved.**
 Underbody Tube must be parallel with Vehicle Frame.
 IT MUST LOOK GOOD.



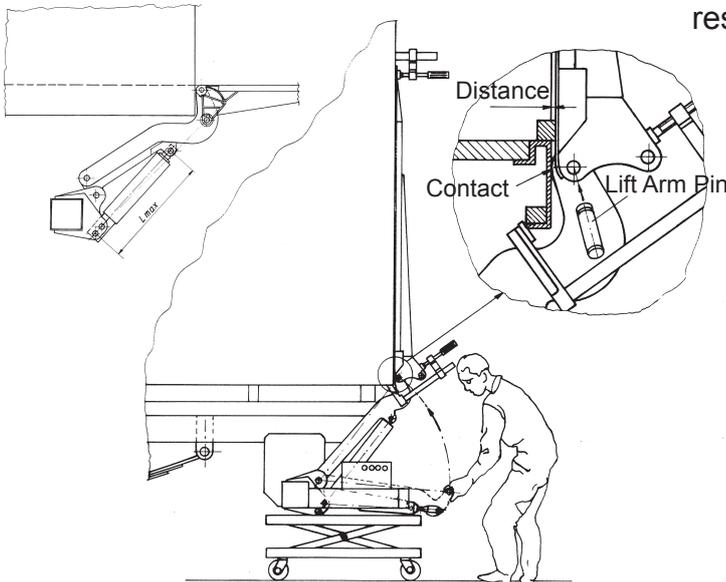
Place the main frame under the vehicle, with a floor jack, and raise it to its approximate final position.
 Loosen the lower clamps on the platform. **Do not remove them.**

Be sure to lubricate all pin surfaces before installing them.

Attach the lifting arms to the platform, remembering that **the lift cylinders will come apart** if raised too high.

(If necessary, raise the main frame closer to the vehicle frame.)

The lifting arms must touch the rear of the body **(See inset)** and the platform must be resting on the floor of the vehicle. The platform must be clamped tightly at the top and loosely at the bottom. This will give a distance of about 3mm (1/16") between platform and body.

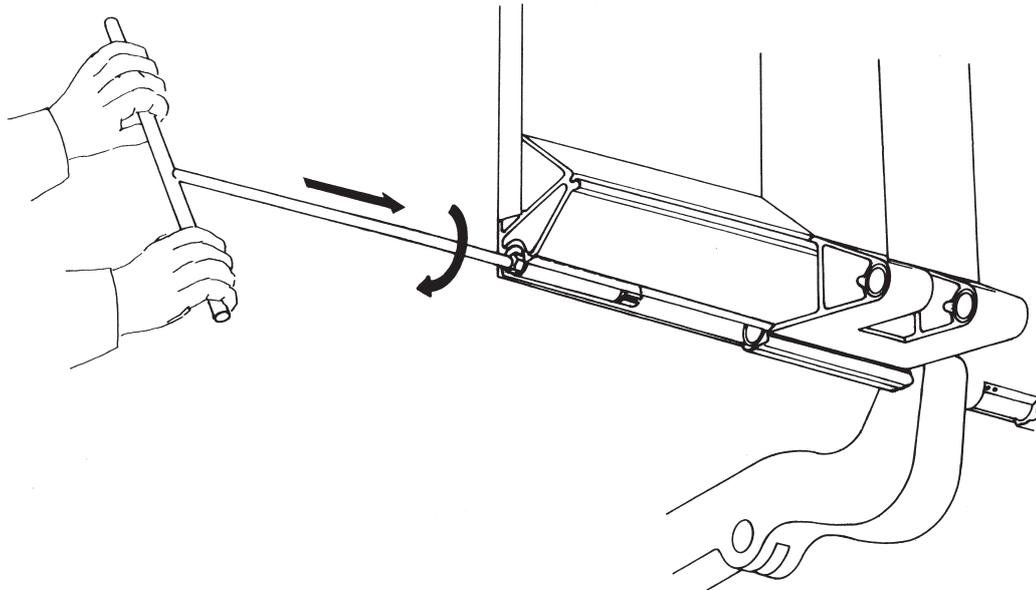


Model	L-max (mm)
L-300	568
L-500	568
L-750	568
L-1000	768
L-1500	768
L-2000	768
L-2500	768

INSTALLATION INSTRUCTIONS

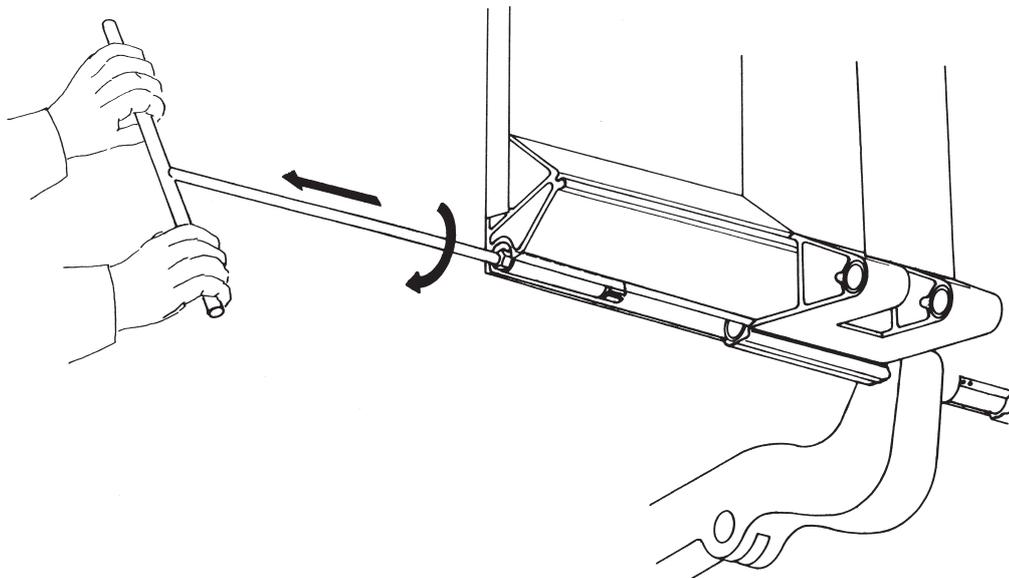
for installing the platform pins in Aluminum platforms:

- It is **never necessary to use a hammer** when installing platform pins. They should fit the bushing and slide in very easy. A tool must be made, to install the pins, using the picture below.
- Screw the pin on the mounting tool and **turn it to the right, while pushing**, to get the pin into the correct position to lock it into place.
- It is important that the bushings are not damaged or moved while installing the pins.



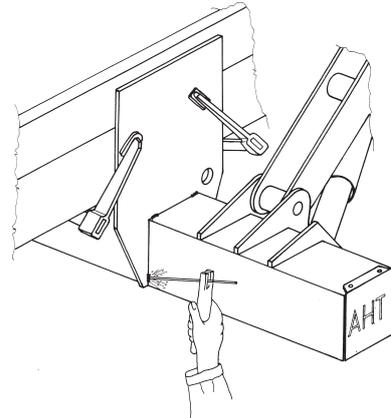
Instructions for removing the platform pins from Aluminum platforms:

- It is important to have the mounting tool for removing the platform pins. **Pins and bushings could be damaged otherwise.**
- After screwing mounting tool into pin, turn to the right, while pulling and remove the pin.



INSTALLATION INSTRUCTIONS

Clamp mounting brackets to vehicle frame (as shown).
Spot weld brackets, on each corner, to main frame.

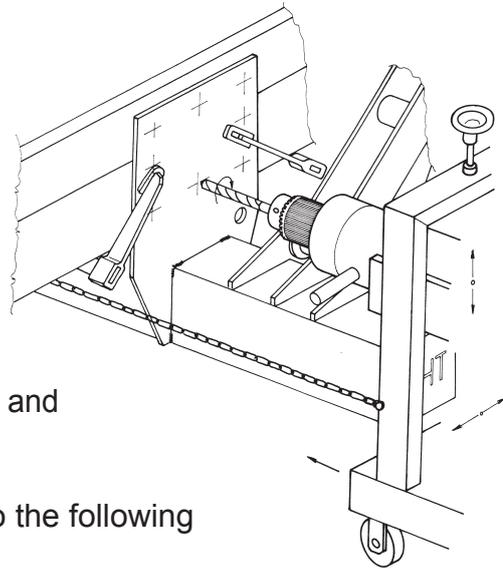


Drill 16mm (5/8") holes into mounting brackets according to chart below:

L 300, L-500, L-750	4 x M16 in each bracket
L-1000	5 x M16 in each bracket
L-1500	6 x M16 in each bracket
L-2000	7 x M16 in each bracket
L-2500	8 x M16 in each bracket

Screw M16 (5/8") is 8.8 Strength (Grade 8) – Max Torque 195 Nm (145 ft lbs.)

Drill two holes in each bracket, put a bolt in each one and secure. Then drill the other holes.

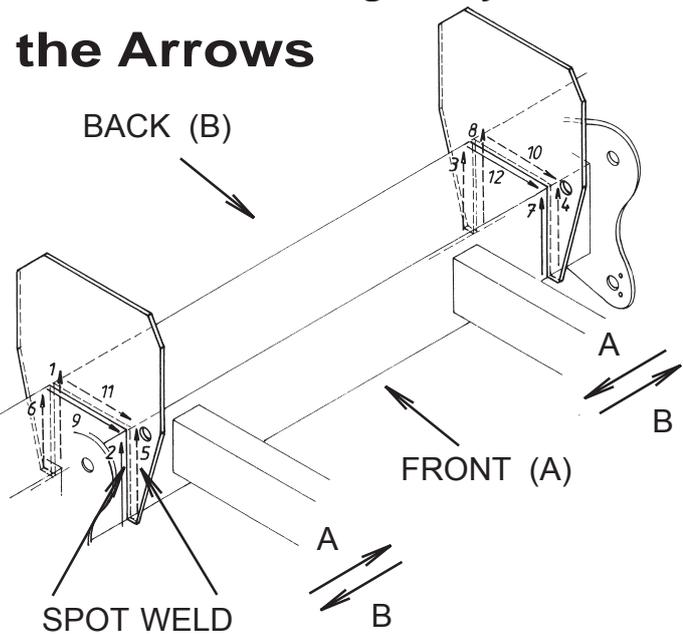


The mounting brackets **must be** welded according to the following directions:

How to weld bracket's on Mainframe in right way

Follow the Arrows

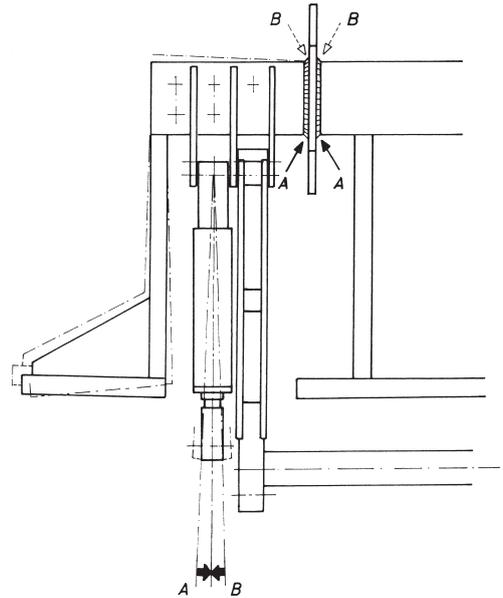
1. Bring platform in position
2. Mount mainframe lift arm to platform
3. Bring mainframe in position
4. spot weld mounting bracket's
5. bolt bracket's to mainframe
6. Weld mounting bracket's as shown in above drawing
7. Mount the tilt cylinders to platform
Both cylinders must be in center
8. If cylinders are not in center,
it can be repaired by heating up
the mainframe on right place
(see diagram and how it moves
by heating at point A and at point B)



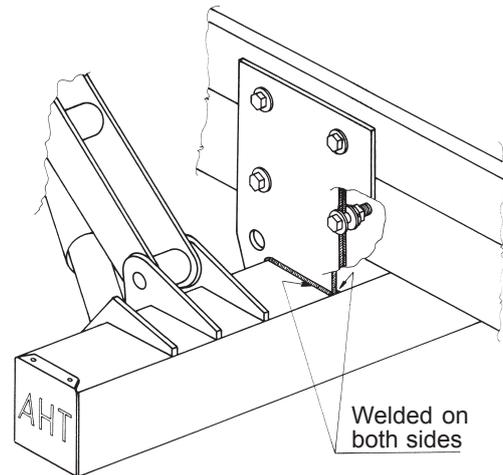
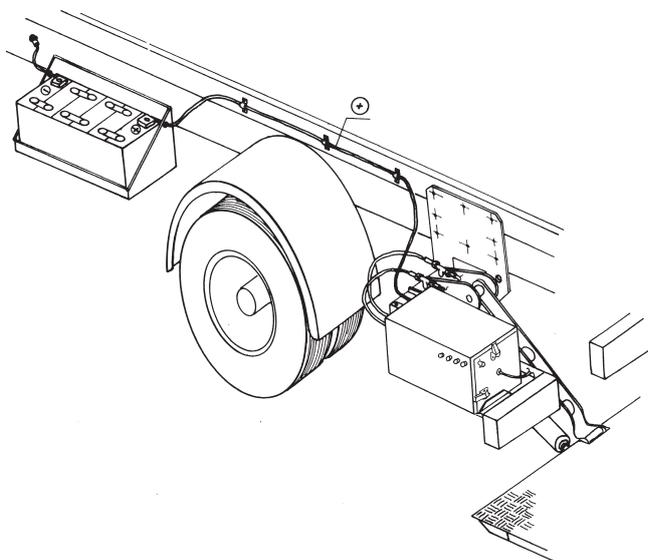
Starting with item (No: 1) and finishing with item (No: 12). This will allow the heat to be evenly distributed and eliminate any distortion of the underbody tube. The tilt cylinder will not connect right, if the underbody tube is distorted.

INSTALLATION INSTRUCTIONS

When properly welded, the tilt cylinder will be in the correct position (parallel to the lift arm).



Tighten all bolts to the vehicle frame. (Max Torque 195 Nm (145 ft lbs))



**CAUTION: REMOVE TRANSPORT FILLER CAP AND INSERT DIPSTICK:
(There is no air hole in filler cap and the pump or reservoir will be destroyed)**

Be sure the vehicle and the liftgate are of the same current (12V or 24V)

Fuse is in the power pack. (12V = 25 Amp and 24V = 16 Amp).

Connect the **positive cable, directly from the battery, to the starter solenoid.**

Connect the **negative cable, directly from the battery, to the motor ground.**

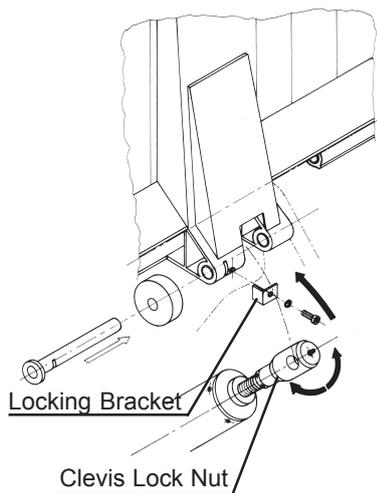
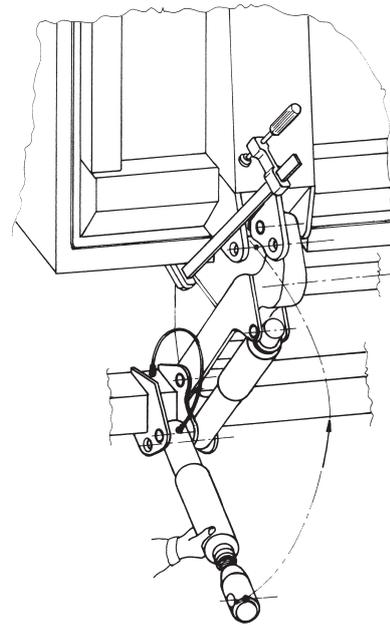
Complete all other electrical work. (Connect all control switches)

**CAUTION: REMOVE TRANSPORT FILLER CAP AND INSERT DIPSTICK:
(There is no air hole in transport filler cap and the pump or reservoir will be destroyed)**

Press the **UP** button to energize the hydraulic system.

INSTALLATION INSTRUCTIONS

Energize the CLOSE button
Remove the lower clamp from the platform
Adjust the tilt cylinder clevis and attach to platform.



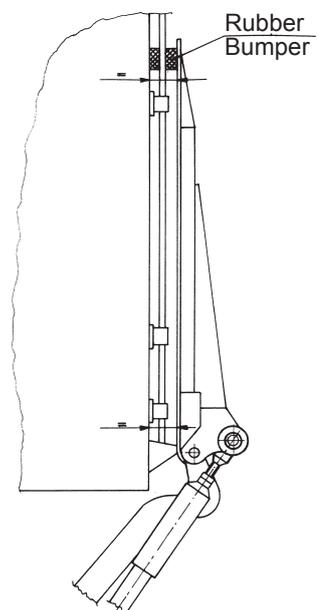
Attaching the tilt cylinder to the platform:

Loosen clevis lock nut.
Turn clevis until the clevis will attach to the platform.
Lubricate the bushing and pin. Install the pin and locking bracket.

Install a rubber bumper on each side of the vehicle door, near the tip of platform, for a cushion.

Adjust the tilt cylinder so the platform does not slam against the body and is resting at 90 degrees.

(Just touching the rubber bumper)



INSTALLATION INSTRUCTIONS

Installing a platform lock on a truck body with roll-up doors or without rear doors:

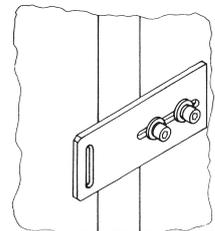
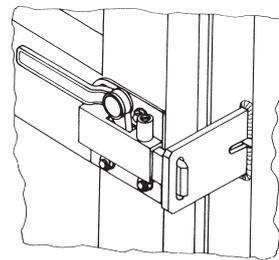
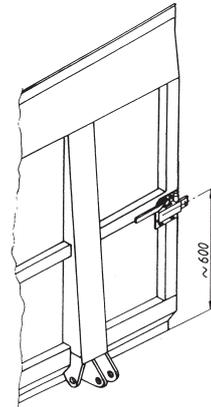
Installing the platform lock

Be sure the platform is in its uppermost position.
(At vehicle bed level and closed).

Weld the platform lock approximately 24" (600mm)
from the bottom of platform.

Weld or bolt the lock hook to the vehicle body.

Locks must be bolted to Aluminum Platforms



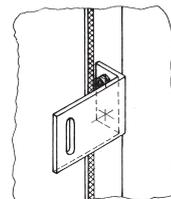
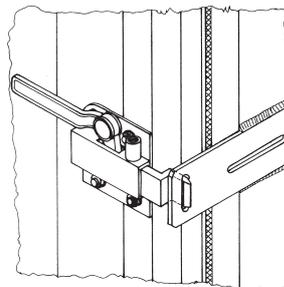
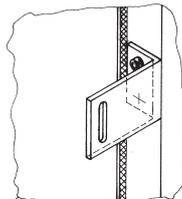
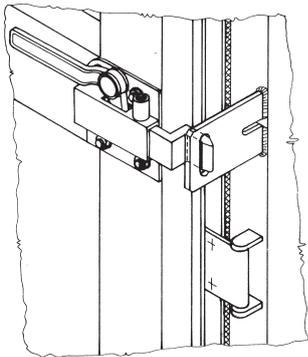
Installing a platform lock on a truck body with swinging rear doors:

This is only one variation of the many ways to install this platform lock.

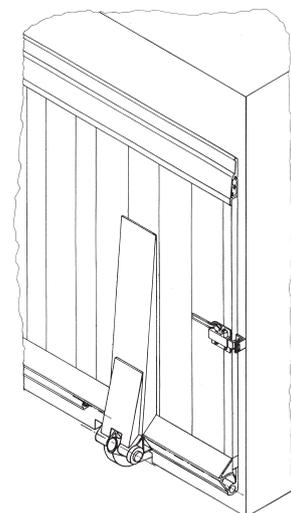
The location will vary with each installation.

When the door is opened it must pass over the lock.

Each unit is delivered with a standard lock and may have to be modified to fit your application.

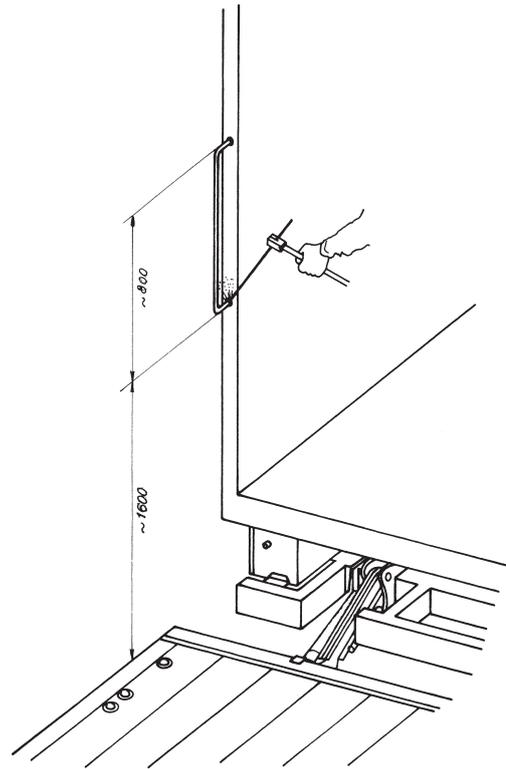


The platform lock is the same for steel and/or aluminum platforms and the installation will vary with each application.



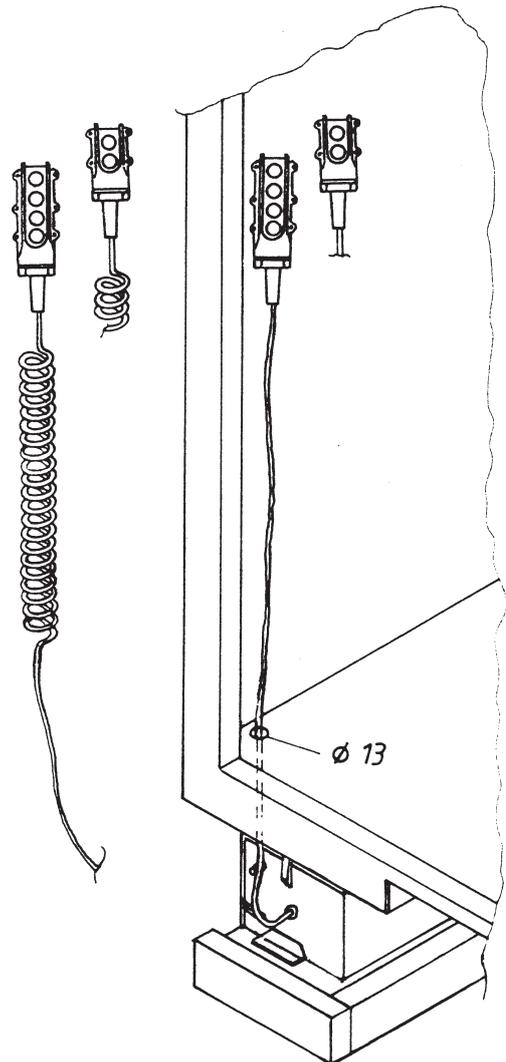
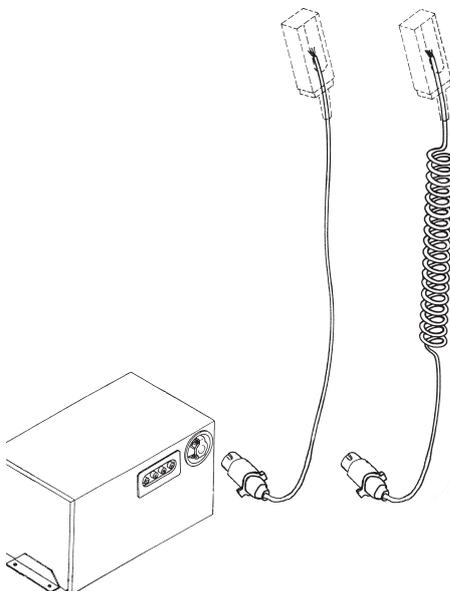
INSTALLATION INSTRUCTIONS

A hand hold must be installed, on the curbside, for operator safety. (See above diagram)



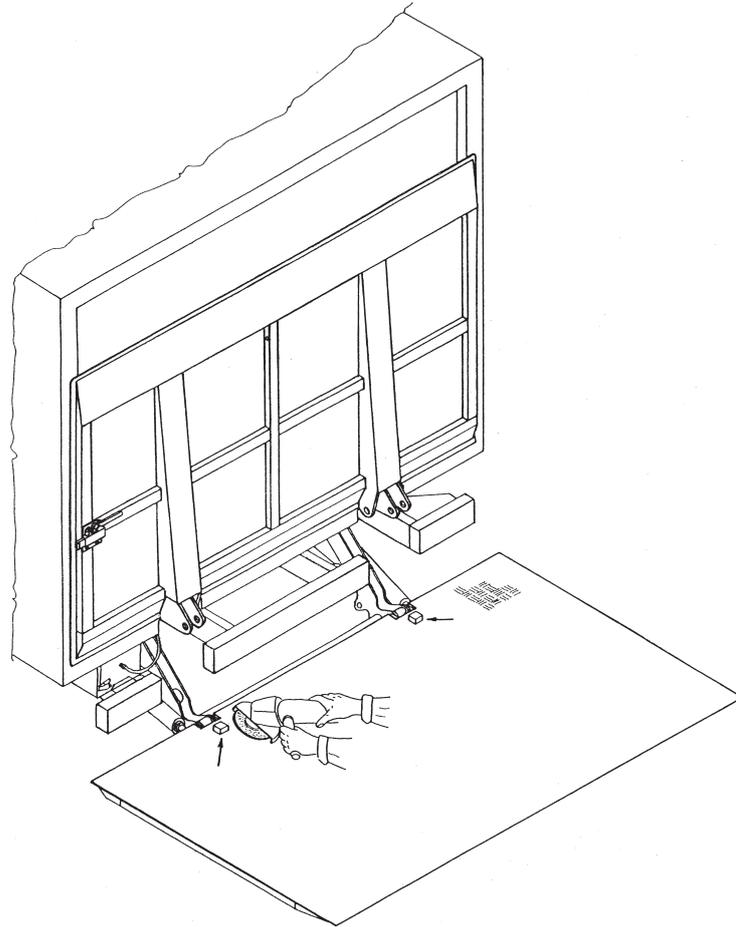
Installing the 2- BUTTON REMOTE CONTROL or 4-BUTTON REMOTE CONTROL:

Drill a hole 13mm (3/8") at the corner of the vehicle floor. Push the remote control cable through the hole and connect it to the power pack electrical panel. There are two different types of cables (straight & spiral). Customer preference.

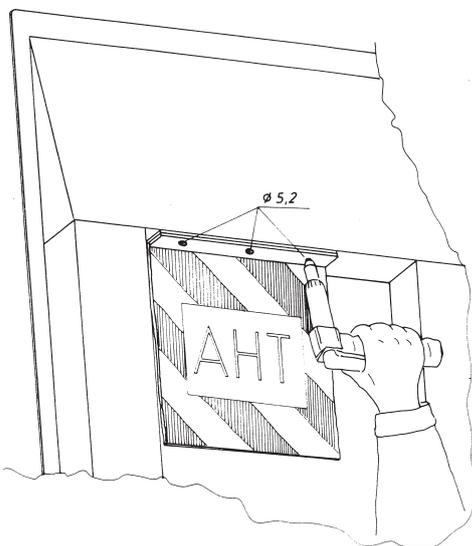


FINISHING THE INSTALLATION:

Using a grinder, carefully remove the two mounting blocks from the platform.
Tilt cylinder needs to be adjusted so the platform does not slam against the body.



- 1) Mount the warning flags with 3 rivets on each flag.
- 2) Mount Lights, spare tire, etc



Adjusting the Safety Loading System:

Power Pack with Safety Loading System „SLS“.

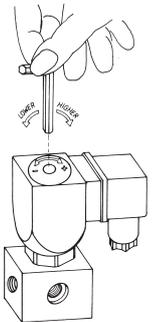
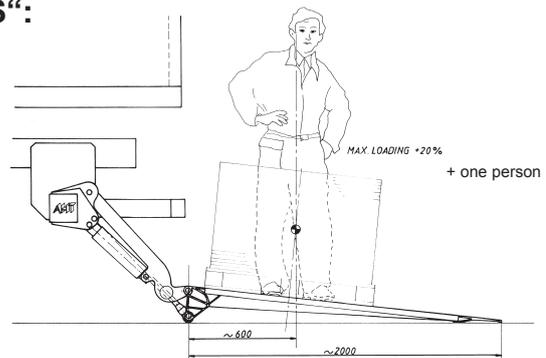
The Safety Loading System „SLS“ consists of:

- Pressure Switch
- Pressure Gauge with memory hand
- Counter
- Buzzer

The pressure gauge and the counter is installed in a box which is sealed at the factory.

How to adjust the Safety Loading System „SLS“:

- Turn on the Main Switch
- Open the platform and lower to the ground
- Lower the platform tip to the ground
- Load the platform with the maximum rated load +20% and one person. Be sure to place the load in the center of platform and at 600mm from the vehicle. (Check the vehicle data plate)



When the platform is loaded and on the ground.

Press the CLOSE button - the buzzer should sound off and the motor should stop.

Continue to press the CLOSE button, while adjusting the pressure switch, until the platform comes to the horizontal position. Adjust the pressure switch with a hex wrench (2.5mm) until the buzzer stops.

- If you press the CLOSE button and the buzzer does not sound off or the platform does not raise to horizontal, the relief valve (4.4), is set too low.
- How to adjust the relief valve (4.4).
 - a) Remove the seal and cover from the adjusting nut.
 - b) Turn the adjusting screw with the hex wrench, **clockwise**, (for higher pressure) and **counter-clockwise** (for lower pressure). Be sure to keep your eye on the pressure gauge.
 - c) The maximum pressure should be 220 Bar (3150 PSI).
 - d) When the pressure is correct, lock the cap screw and check the pressure again to be sure it has not changed. Seal the cover.

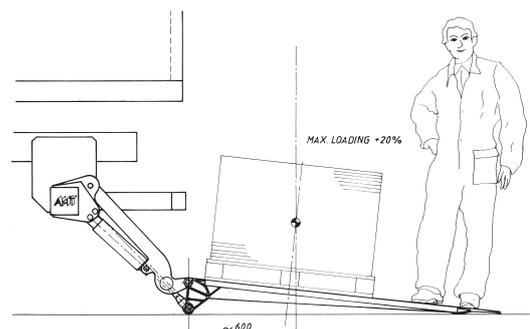
CAUTION: Never bottom the relief valve. The power pack and/or hydraulic system could be damaged.

Press the UP button. If the platform does not raise, the relief valve is still set too low. Readjust the relief valve as described above.

Checking for overload:

With the platform on the ground, fully loaded, and a person standing on the tip, press the CLOSE button, the buzzer should sound off and the motor should stop.

This would mean the SLS is adjusted correctly.

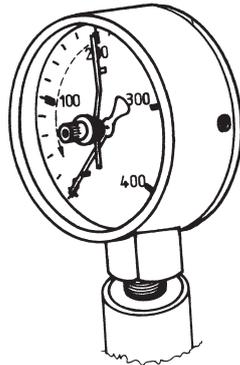


Adjusting the Safety Loading System:

Power Pack with Safety Loading System „SLS“.

If the **buzzer does not sound off** and/or if the **motor does not stop**, the adjustable screw of the pressure switch must be turned **counter-clockwise** until the motor stops and the buzzer does sound off.

- Zero the memory on the pressure gauge:



- Close the SLS box and seal it with a wire tie.
- Seal the cover cap of the relief valve.

CAUTION: The „O“ Ring can be damaged if the cap is tightened too much.

- Turn off the main switch.

The Safety Loading System can be affected by the sun, when the platform is closed, and the main switch is turned on. If this happens and the buzzer sounds off, you must press the OPEN button momentarily.

IMPORTANT: If the main switch is in the off position, the buzzer will not sound off.

Adjusting the Speed and Pressure:

Power Pack without Safety Loading System „SLS“.

Adjustable flow control valve:

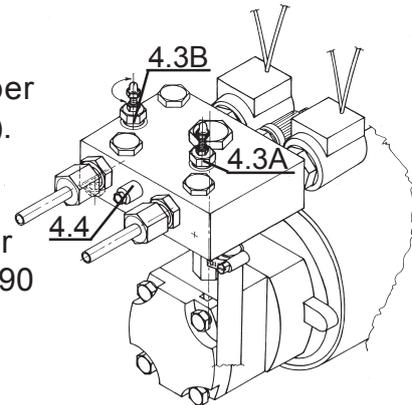
The Lift and Closing speed is not adjustable.

The lowering speed is adjusted by position 4.3A

The opening speed is adjusted by position 4.3B

How to adjust the flow control valves:

- Be sure the adjustable flow control valves are not closed. To regulate the lowering speed, first loosen the M4 (5/16") nut and adjust it carefully until the correct lowering speed is attained. When the speed is correct, hold the adjusting screw and lock the nut.
- The **lowering speed** should be as follows:
Maximum lowering speed should be 6" (150mm) per second. (Maximum lowering speed is 40" in 7 seconds).
(1 m in 7 seconds)
- The **opening speed** should be as follows:
Maximum opening speed should be 6 degrees per second. (Maximum opening speed is 15 seconds for 90 degrees).



Adjustable relief valve:

The hydraulic pressure is adjusted by position 4.4.

How to adjust the relief valve:

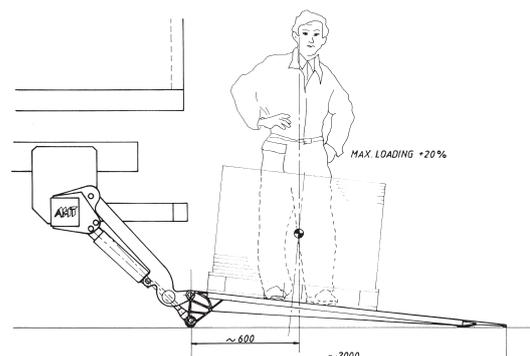
The relief valve is sealed, with a wire tie, from the factory and **must not** be removed unless authorized by the factory. **Warranty is void if seal is broken.**

- The hydraulic pressure is adjusted, at the relief valve (4.4), inside the power pack cover.
- Adjustable from (50-250 Bar) or (700-3600 PSI)
- Adjustment of the relief valve:
 - a) To adjust pressure, a calibrated pressure gauge **is required** and it should be connected at the test point. (4.5)
 - b) Remove the seal and cover from the adjusting nut.
 - c) Turn the adjusting screw with a hex wrench, clockwise (for higher pressure) or counter-clockwise (for lower pressure) being sure to keep an eye on the pressure gauge. The maximum pressure should be 220 Bar (3150 PSI).
 - d) When pressure is correct, lock the cap screw and check the pressure again to be sure it has not changed. Seal the cover.

Caution: Never bottom the relief valve.

The power pack and/or hydraulic system could be damaged.

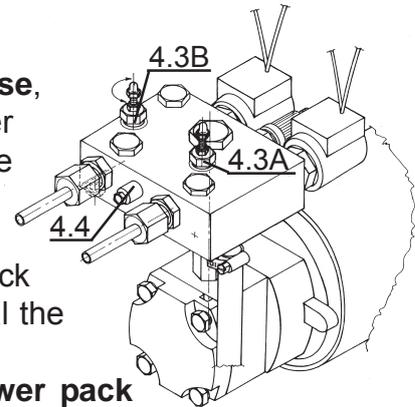
- Turn on the Main Switch
- Open the platform and lower to the ground
- Lower the platform tip to the ground
- Load the platform with the maximum rated load +20% and one person. Be sure to place the load in the center of platform and at 600mm from the vehicle. (Check the vehicle data plate)



Adjusting the maximum Lifting Pressure:

Power Pack without Safety Loading System „SLS“.

- Press the LIFT button. If the platform does not raise, the relief valve is set too low. How to adjust the relief valve (4.4).
- a) Remove the seal and cover from the adjusting nut.
- b) Turn the adjusting screw with the hex wrench, **clockwise**, (for higher pressure) and **counter-clockwise** (for lower pressure). Be sure to keep your eye on the pressure gauge.
- c) The maximum pressure should be 220 Bar (3150 PSI).
- d) When the pressure is correct, lock the cap screw and check the pressure again to be sure it has not changed. Seal the cover.

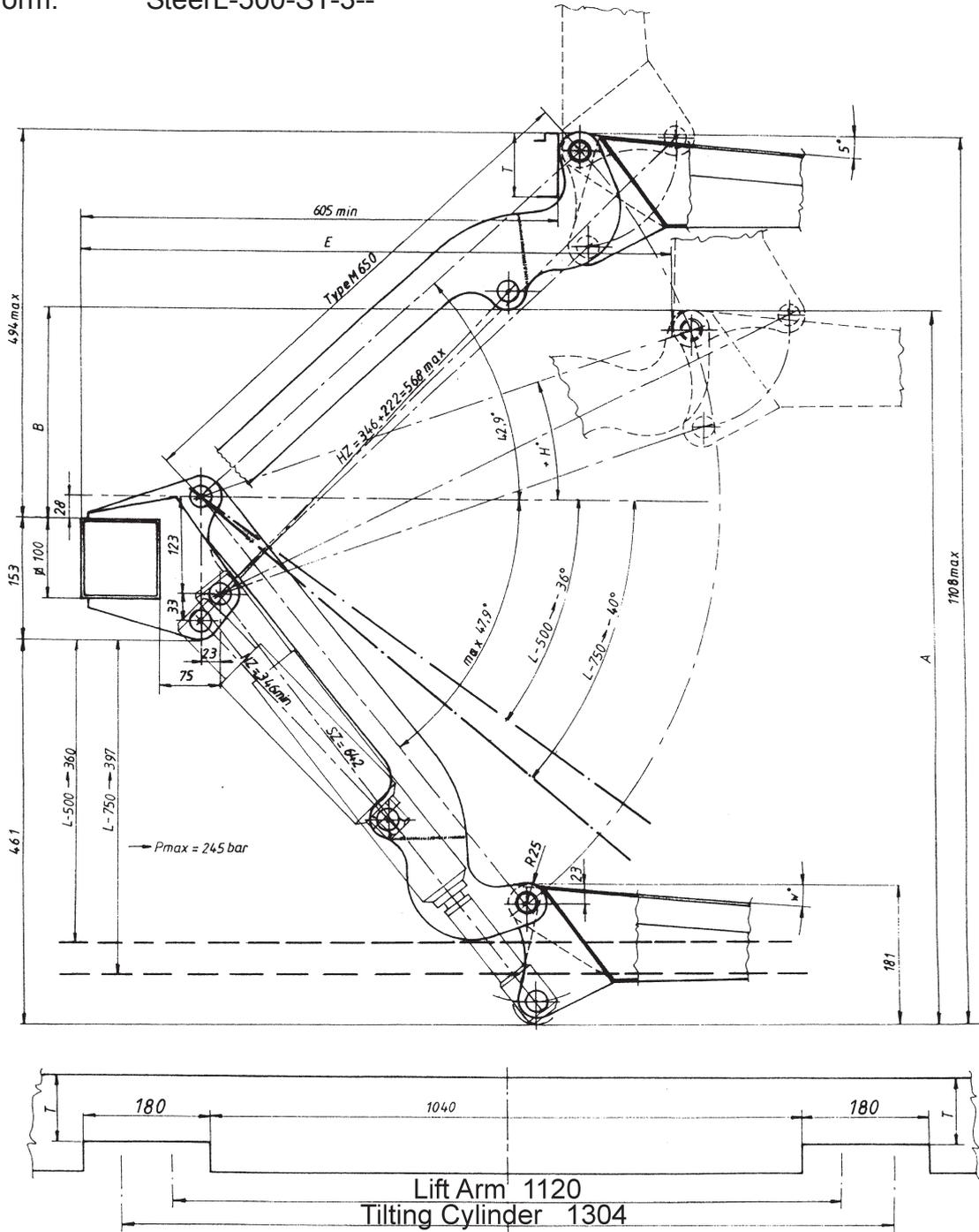


CAUTION: Never bottom the relief valve. The power pack and/or hydraulic system could be damaged.-

- Turn the main switch off.

Installation Drawing for L-300, L-500 and L-750 - Middle Lift Arm

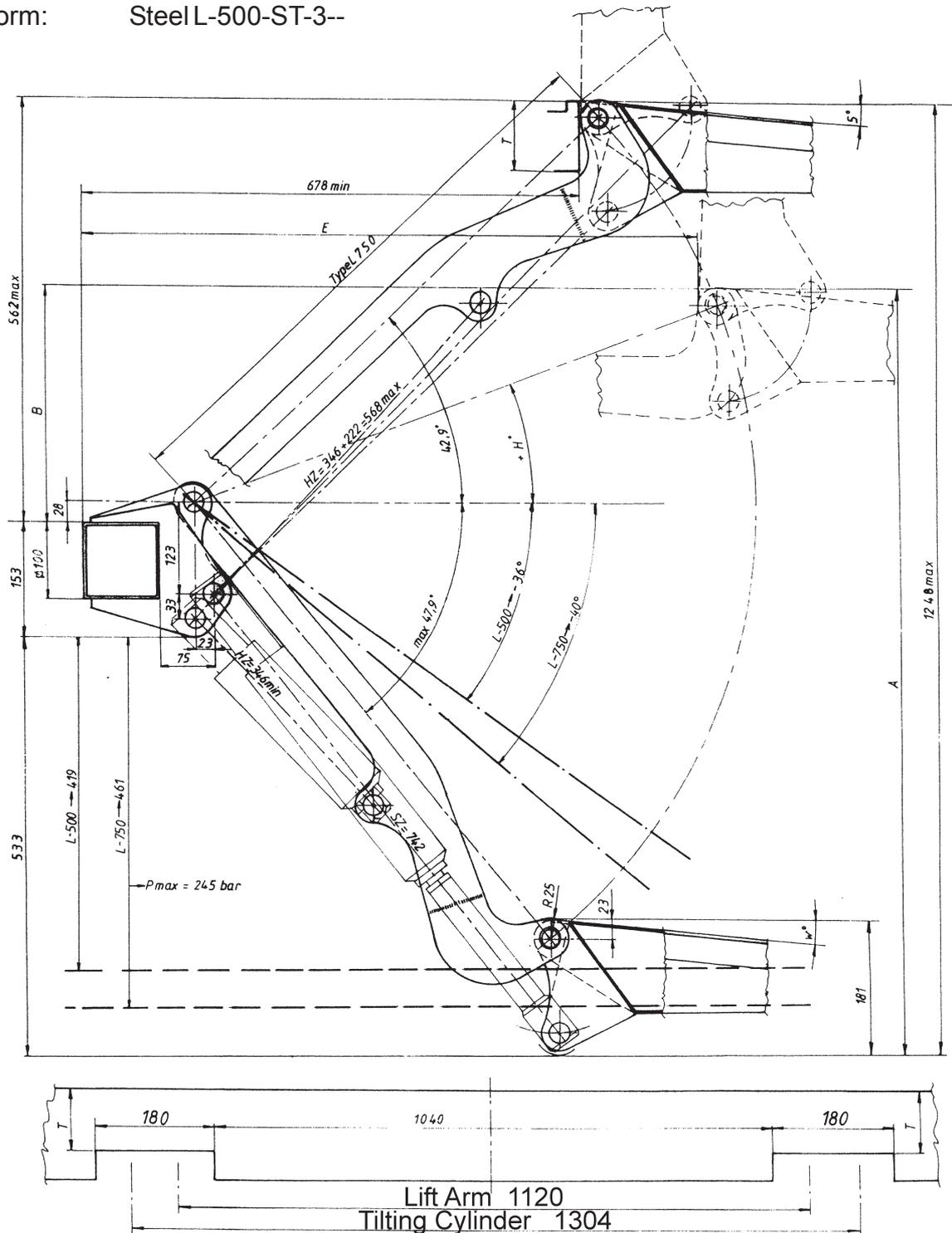
Lift Arm: Steel L-500-STX-2M
 Main Frame: Steel L-500-ST-1.1
 Platform: Steel L-500-ST-3--



A	B	+H*	SZ - <small>hyb</small> <small>s</small> trøke	E	T
1108	494	42,9	182,9	605	95
1090	476	40,8	182,0	621	90
1070	456	38,4	180,8	638	85
1050	436	36,2	179,5	653	80
1030	416	34,0	177,6	668	75
1010	396	31,9	176,3	681	70
990	376	30,0	174,6	692	65
970	356	27,9	172,5	703	40
950	336	25,9	170,4	714	30
930	316	24,0	168,2	723	25

Installation Drawing for L-300, L-500 and L-750 - Long Lift Arm

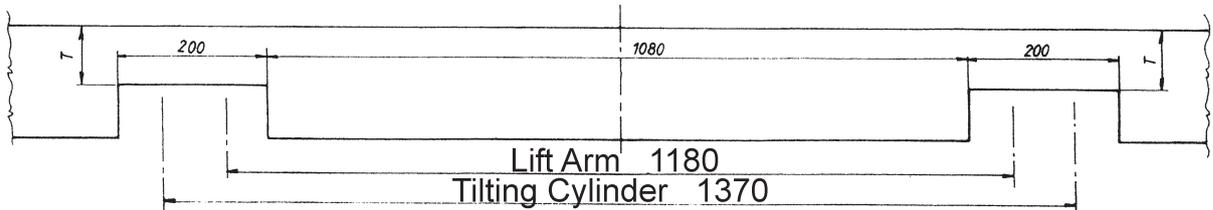
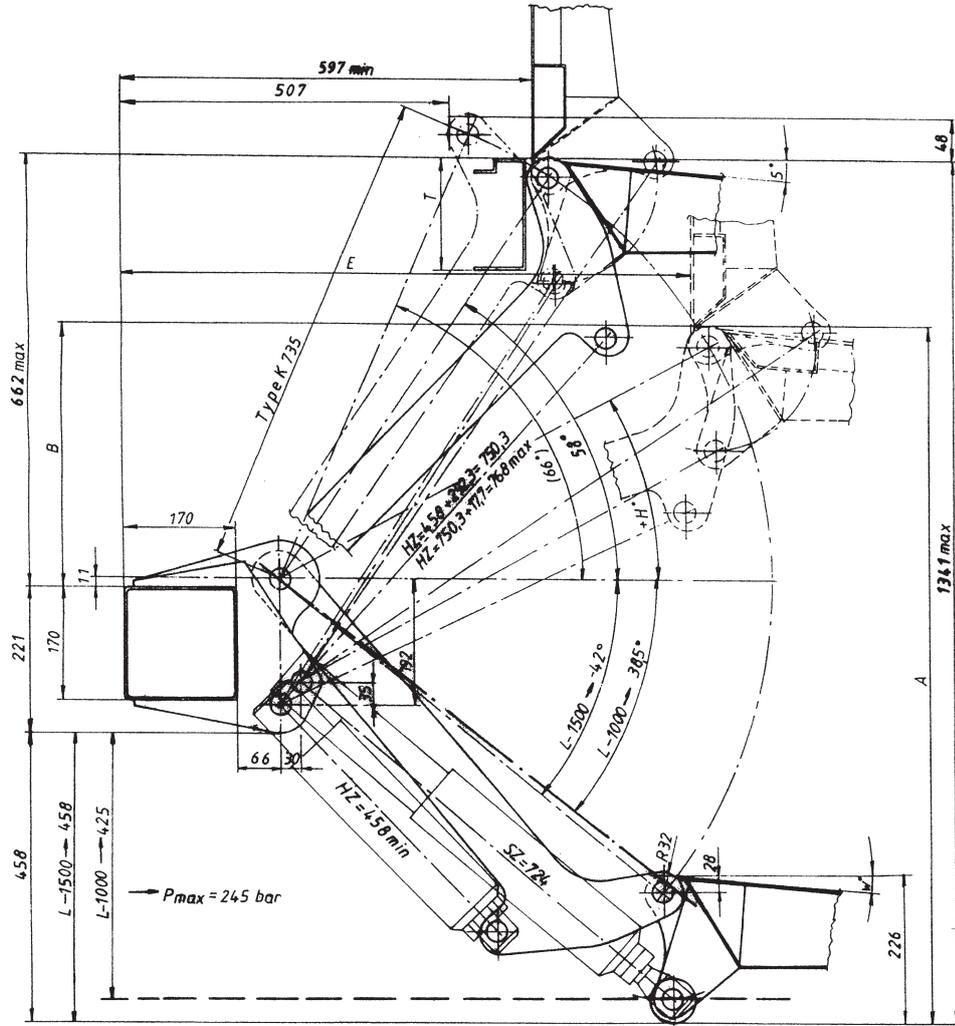
Lift Arm: Steel L-500-STX-2L
 Main Frame: Steel L-500-ST-1.1
 Platform: Steel L-500-ST-3--



A	B	+H	SZ - hub stroke	E	T	A	B	+H	SZ - hub stroke	E	T
1248	562	42,9	180,1	678	100	1150	464	33,4	177,2	754	75
1230	544	41,1	182,3	694	95	1130	444	31,6	175,7	767	70
1210	524	39,1	181,1	710	90	1110	424	29,8	174,0	779	60
1190	504	37,2	179,9	726	85	1090	404	28,1	172,3	790	50
1170	484	35,3	179,1	741	80	1070	384	26,4	170,4	800	40

Installation Drawing for L-1000, and L-1500 - Short Lift Arm

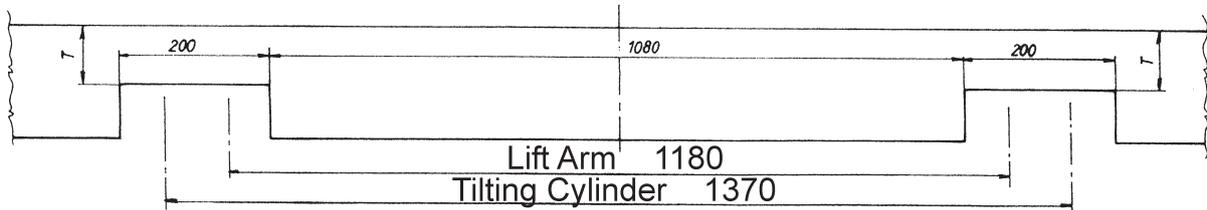
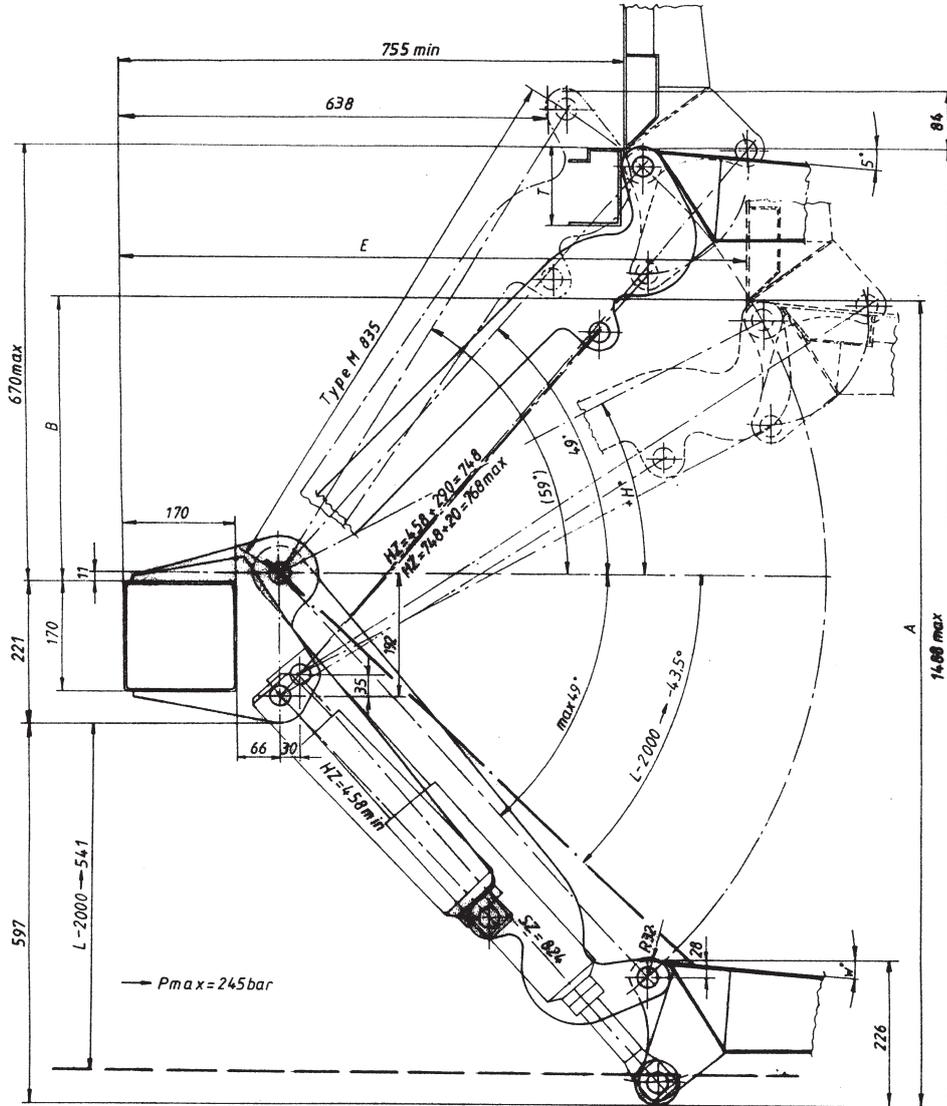
Lift Arm: Steel L-1500-STX-2K
 Main Frame: Steel L-1500-ST-1.1
 Platform: Steel L-1500-ST-3--



A	B	+H°	SZ - hub stroke	E	T	A	B	+H°	SZ - hub stroke	E	T
1341	662	58,0	235,0	597	180	1221	542	43,2	233,3	744	105
1321	642	55,2	235,7	628	170	1201	522	41,1	231,9	762	80
1301	622	52,5	235,9	655	160	1181	502	39,1	230,4	779	80
1281	602	50,0	235,7	680	150	1161	482	37,1	228,7	794	30
1261	582	47,7	235,2	703	140	1141	462	35,2	226,8	809	30
1241	562	45,4	234,4	724	125	1121	442	33,3	224,7	822	30

Installation Drawing for L-2000 - Middle Lift Arm

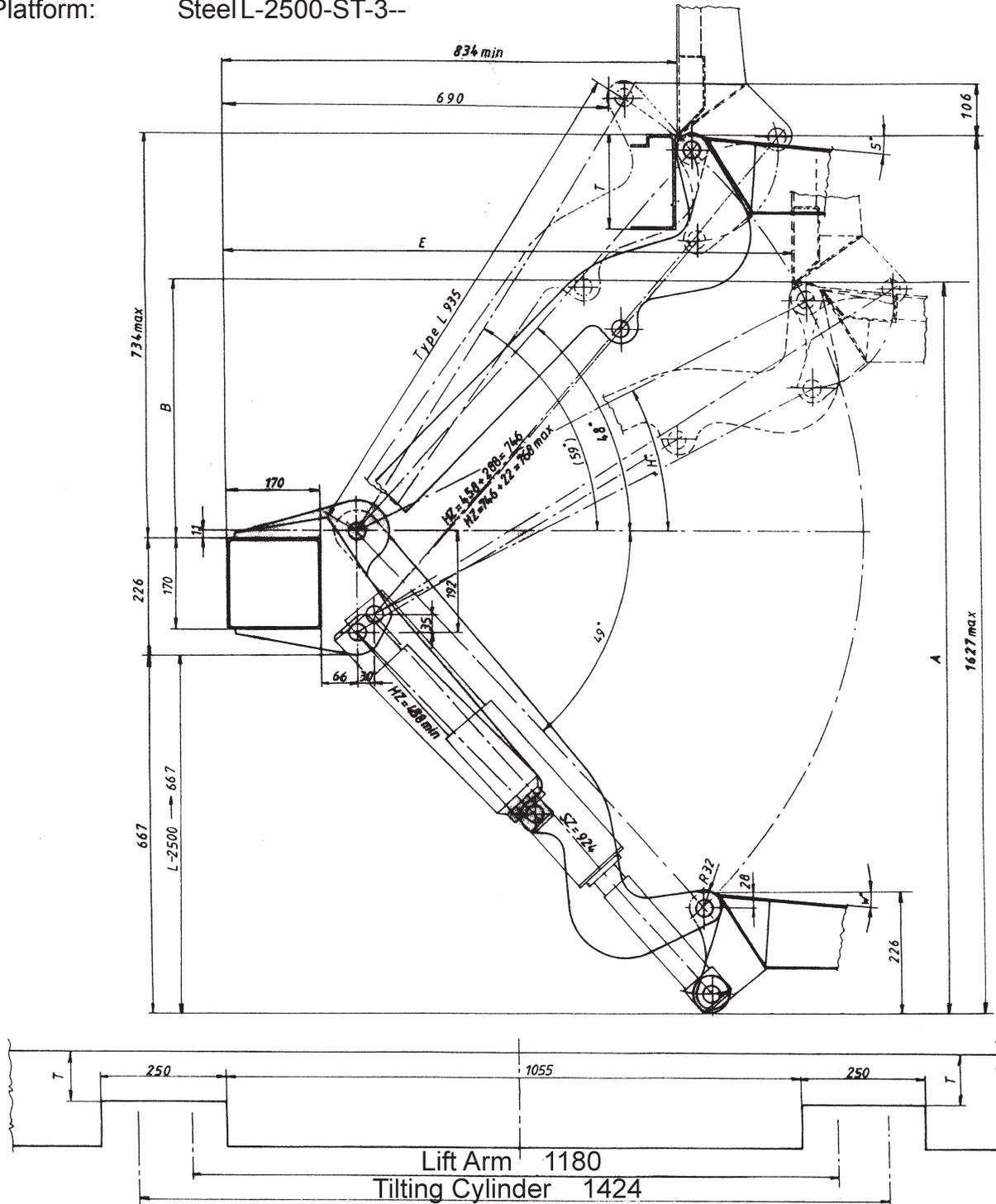
Lift Arm: Steel L-1500-STX-2M
 Main Frame: Steel L-2000-ST-1.1
 Platform: Steel L-1500-ST-3--



A	B	+H°	SZ - hub stroke	E	T	A	B	+H°	SZ - hub stroke	E	T
1488	670	49,0	235,6	755	120	1368	550	37,7	229,2	869	95
1468	650	47,0	235,0	778	115	1348	530	36,0	227,6	884	90
1448	630	45,0	234,2	798	110	1328	510	34,3	225,8	898	70
1428	610	43,1	233,2	818	105	1308	490	32,6	223,9	911	25
1408	590	41,2	232,0	836	100	1288	470	31,0	221,9	923	25
1388	570	39,4	230,7	853	100	1248	450	29,4	219,7	935	25

Installation Drawing for L-2500 - Long Lift Arm

Lift Arm: Steel L-2500-STX-2L
 Main Frame: Steel L-2500-ST-1.1
 Platform: Steel L-2500-ST-3--



A	B	+H°	SZ-hub stroke	E	T	A	B	+H°	SZ-hub stroke	E	T
1627	734	48,0	235,3	834	170	1507	614	37,9	229,4	945	80
1607	714	46,2	234,7	855	165	1487	594	36,4	228,0	961	60
1587	694	44,5	234,0	875	160	1467	574	34,9	226,4	975	30
1567	674	42,8	233,0	894	155	1447	554	33,4	224,8	988	30
1547	654	41,1	232,0	912	150	1427	534	32,0	223,0	1001	30
1527	634	39,5	229,4	929	135	1407	514	30,5	221,1	1013	30