

F 210A.22

use and maintenance

FROM SERIAL NUMBER *3324*

INDEX

- 1 INTRODUCTION
- 2 CLASSIFICATION OF THE CRANE MODEL
 - 2.1 Generality
 - 2.2 Hydraulic jibs
 - 2.3 Technical data
- 3 CAPACITY PLATES
 - 3.1 Generality
 - 3.2 Capacity plates with lifting moment limiting device
- 4 HYDRAULIC SCHEMATICS (version with lifting moment limiting device)
- 5 ELECTRIC SCHEMATICS
- 6 SAFETY NORMS
- 7 WARNING AND INSTRUCTIONS
 - 7.1 Generality
 - 7.2 Before operating
 - 7.3 During operation
 - 7.4 At the end of the operation (Prior to driving the vehicle)
 - 7.5 Residual risks
- 8 IDENTIFICATION OF THE CRANE MODEL
 - 8.1 Generality
 - 8.2 Crane mark
- 9 CRANE NOMENCLATURE
 - 9.1 Crane with ground controls on both sides
 - 9.2 Crane with ground controls on both sides and with top seat controls by hand cables
 - 9.3 Crane with top seat controls and with ground controls for outriggers
- 10 NOMENCLATURE OF THE SAFETY AND PROTECTION DEVICES
 - 10.1 Crane with ground controls on both sides
 - 10.2 Crane with ground controls on both sides and with top seat controls by hand cables
 - 10.3 Crane with top seat controls and with ground controls for outriggers
- 11 SUPPLEMENTARY BEAMS
 - 11.1 Generality
 - 11.2 Identification of the supplementary beams
- 12 TILTABLE OUTRIGGER RAMS
 - 12.1 Manually tilttable outrigger rams
- 13 MANOEUVRES AND CONTROLS TO STABILIZE THE VEHICLE
 - 13.1 Generality
 - 13.2 Manual extension and re-entry of the outrigger supports (not available)
 - 13.3 Manoeuvres for the manual extension of the double outrigger supports (not available)
 - 13.4 Functions of control levers for stabilization
 - 13.5 Controls to stabilize the vehicle
 - 13.5.1 Crane with hydraulic tilttable supports (WITH RACK) for outrigger rams

CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL

- Thank you very much for reading the preview of the manual.
- You can download the complete manual from: www.heydownloads.com by clicking the link below

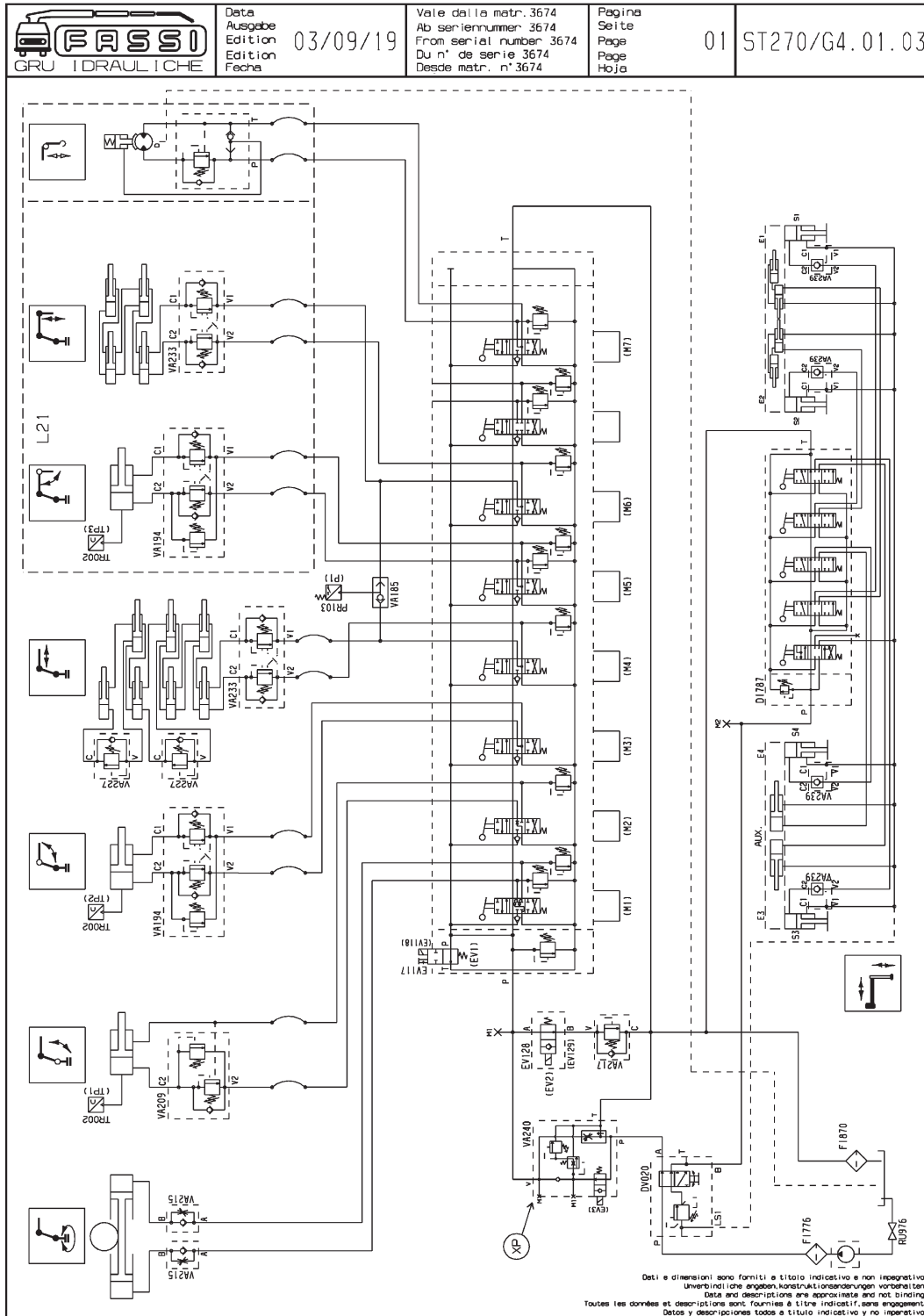


- Please note: If there is no response to CLICKING the link, please download this PDF first and then click on it.

CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL

4 HYDRAULIC SCHEMATICS (version with lifting moment limiting device)

Hydraulic schematic for crane - HCD4 distributor - ground controls - "electronic" lifting moment limiting device (F170A from s.n. *3743* - F190A from s.n. *3709* - F210A from s.n. *3855*)



CODE	DESCRIPTION
DI787	DISTRIBUTOR
DV020	DEVIATOR
EV128	ELECTROVALVE
EV117	ELECTROVALVE
FI870	OIL FILTER (RETURN)
M1/M2	GAUGE QUICK CONNECTION
PR103	PRESSURE SWITCH
RU976	FAUCET
TR001	PRESSURE TRANSDUCER
VA185	SELECTOR VALVE
VA194	DOUBLE EFFECT BLOCK VALVE
VA209	SIMPLE EFFECT BLOCK VALVE
VA215	OIL FLOW CHECK VALVE
VA217	SEQUENCE VALVE
VA227	SEQUENCE VALVE
VA233	DOUBLE EFFECT BLOCK VALVE
VA239	SIMPLE EFFECT BLOCK VALVE
XP	
VA240	"XP" VALVE

(!) ATTENTION (!)

Respect the safety distances from electric lines; the minimum distance is, according to CEN norms, five (5) meters, except for otherwise prescribed by national norms.

(!) ATTENTION (!)

Failure to respect the minimum safe distances may result in electrical hazards for the operator and his assistants.

ELECTRICUTION:

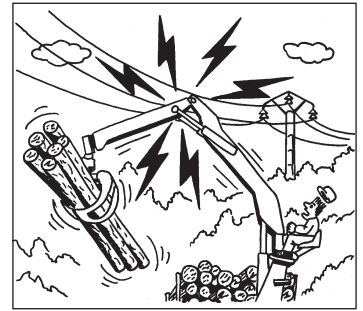
General safety precautions for the operator and potential co-workers. If the crane hits an overhead power line, do not touch the crane, the truck or the load.

Carefully evaluate the danger before moving. If you are closer than 10 meters from the crane, the truck, the load or the electric line, move at least 10 meters away, by shuffling away with small steps, in order to minimize the chance of getting a too high voltage difference between the feet.

Warn others to stay away; call for help and contact the power company to de-energize the line: do not attempt to assist someone in direct or indirect contact with the power line before the power has been disabled: you run the risk of being electricuted yourself.

If you are in the truck cabin, stay inside without touching the vehicle body because it's extremely hazardous to get out before the line is de-energised.

Help the electricuted person if you know the first-aid procedures, otherwise wait for the paramedics to arrive.

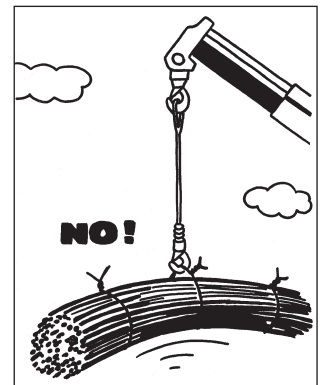


(!) ATTENTION (!)

Do not utilize the crane during thunderstorms and with wind speed exceeding 13,8 m/s (50 km/h), maximum value of the Beaufort scale degree 6.

Indications about wind speed

Force of the wind Beaufort scale	Wind speed m/s	Classification	Characteristics
0	0,0 - 0,2	Calm	Calm wind, smoke goes up quite vertically
1 2	0,3 - 1,5 1,6 - 3,3	Light breeze	Smoke reveals the direction of the wind, one can feel the wind blowing, leaves start fluttering.
3 4	3,4 - 5,4 5,5 - 7,9	Moderate breeze	Leaves and branches are in constant motion, small branches start fluttering. Dust and papers dance on the ground.
5	8,0 - 10,7	Fresh breeze	Small green branches bend, the surface of waterways and lakes are wavy.
6	10,8 - 13,8	Near gale	Big branches bend, wind whistles through high-tension cables, it's difficult to walk keeping the umbrella open.
7	13,9 - 17,1	Moderate gale	Trees sway, it's hard to walk
8	17,2 - 20,7	Storm wind	Branches get broken, it's hard to walk.
9	20,8 - 24,4	Storm	It damages houses (antennas and roof tiles fall down)



(!) ATTENTION (!)

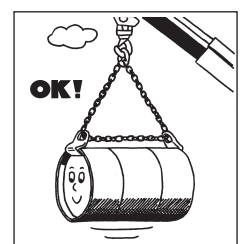
Carefully inspect the load rigging.

Hook up the load, checking that it does not exceed the capacity indicated on the lifting diagram specific to each load configuration.

Make sure that the lifted load is balanced.

Avoid swinging the load above the control station; in cases where the load is too close, the crane must be operated from the opposite side or with the radio-remote control.

When operating through a winch, lift the load vertically using the cable and not the booms in order to avoid swinging the load.



13 MANOEUVRES AND CONTROLS TO STABILIZE THE VEHICLE

13.1 Generality

The outriggers rams prevent damaging stresses both to the frame and to the vehicle suspensions on which the crane is mounted to and assure the stability of the unit during load handling.

(!) ATTENTION (!)

Be very careful when stabilizing the vehicle; make sure that no one is or transits in close proximity of the working area of the outriggers.

(!) ATTENTION (!)

The crane stability is maintained by the maximum extension of the outrigger supports, by the solidity of the base underneath the plates of the outrigger rams and by the observance of the capacity plates. To check the maximum working pressure see Paragraph 2.3 Technical data

Check that the outrigger rams are applied on a solid base; if necessary use larger outrigger base plates (available on request) to avoid sinking.

When stabilization is complete the wheels of the vehicle must still be in contact with the ground and the suspensions must not be fully unloaded.

Stabilize the crane so as to operate on a horizontal plane with a maximum tolerance of 1,5 degrees.

While loading, it may be necessary to vertically adjust the outrigger rams to prevent an overload on the outriggers, then stabilize again.

While unloading, the outrigger rams may not be perfectly in contact with the ground because of a rise in the suspension; it is therefore recommended to stabilize the vehicle during operation to avoid an overturn.

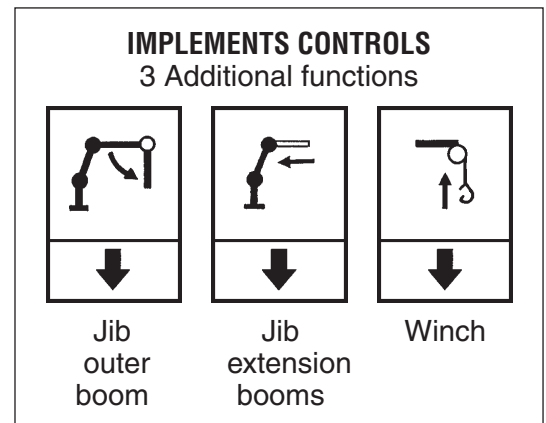
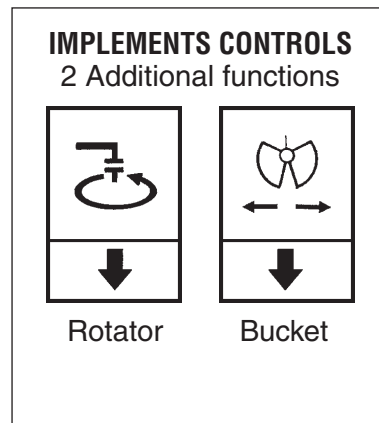
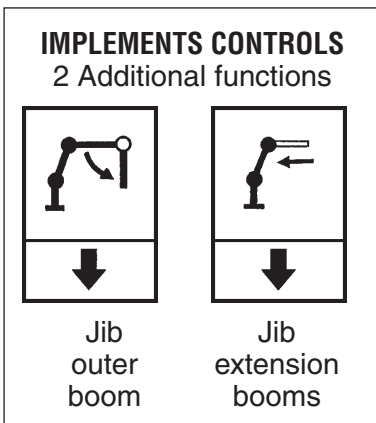
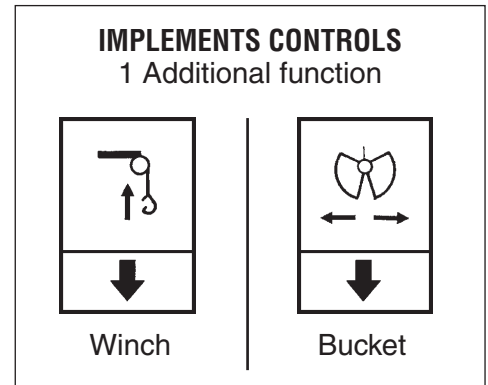
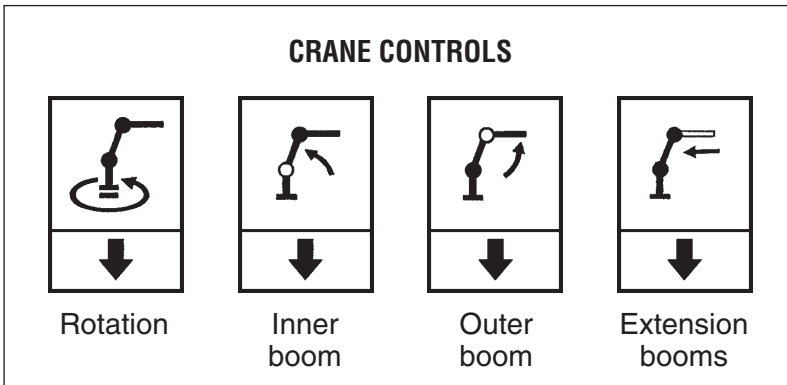


DE 6409A

(!) ATTENTION (!)

The sequence of the plates placed on the crane controls may be different.

Make sure that the lever you are going to operate correspond to the control you selected.



(!) Operate the levers smoothly and gradually (!)

When carrying out simultaneous movements of two or more functions, also related to pump flow and lever travel, it is possible that on reaching the stroke end of a particular function, an increase in speed of the other functions will occur.

(!) ATTENTION (!)

While exiting and folding the crane, you must operate from the distributor side; it is forbidden to operate from the double control side because of the overall dimensions of the booms. (DE1684A fig. 15)

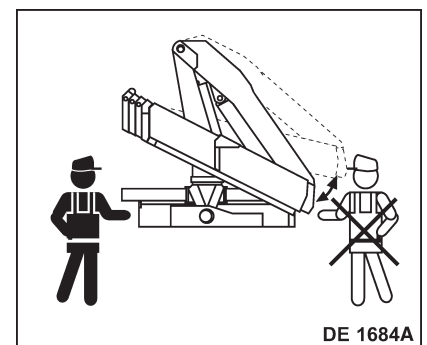


fig. 15

16.4 Load handling

Manoeuvres of the crane

Fig. 20a-b e 20c-d illustrate the configurations of the crane (and of the eventual hydraulic extension) with the manoeuvres allowed and not allowed by the device, in connection with the horizontal position of the crane and extension outer booms.

(!) ATTENTION (!)

In the overload condition, if you simultaneously effect one permitted and one non permitted manoeuvre you haven't movement. In the overload condition, before effecting a permitted manoeuvre, it is necessary to return all the levers to the neutral position.

(!) ATTENTION (!)

During load handling with the crane and with the crane and hydraulic jib, in vertical configuration or close, the operator must strictly refer to the loads indicated on the capacity plates since the limiting device shows to be not particularly sensitive with vertical lifts.

Crane with activated limiting device by the intervention of the crane or the hydraulic jib (overload condition) and with outer boom of the crane above the horizontal line fig. 20a-20b

Manoeuvres not allowed:

- Inner boom descent
- Outer boom descent
- Extension of the crane extension boom sections (*)
- Lift and descent of the hydraulic jib
- Extension of the extension booms section of the jib
- Winch rope lift
- Movement of the hydraulic accessories (**)

- NOTES:** (*) If the overload condition has been activated by the hydraulic extension, the extension of the crane boom sections is permitted.
(**) It is permitted only when coupled with permitted manoeuvres.

Manoeuvres allowed: all the manoeuvres that bring the load closer to the column and therefore the overload

- Rotation in both directions
- Inner boom lift
- Outer boom lift
- Re-entry of the crane extension boom sections
- Re-entry of the jib extension boom sections
- Winch rope descent

Crane with activated limiting device by the intervention of the crane or the hydraulic jib (overload condition) and with outer boom of the crane under the horizontal line fig. 20c-20d

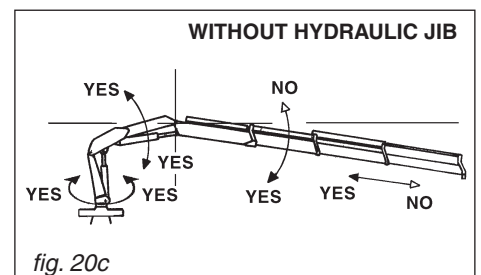
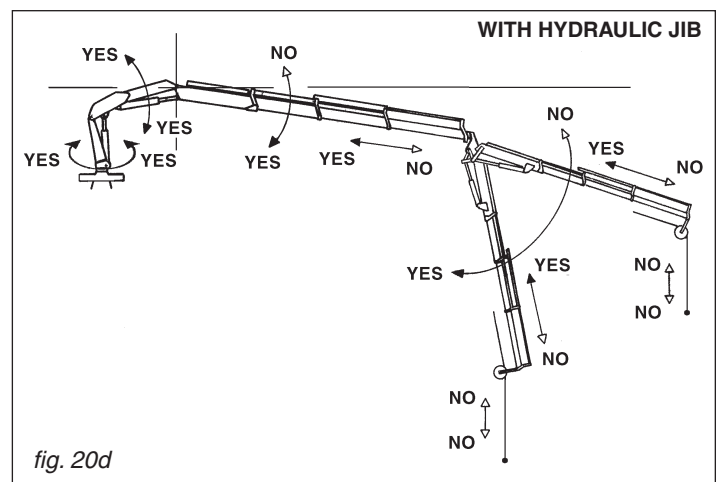
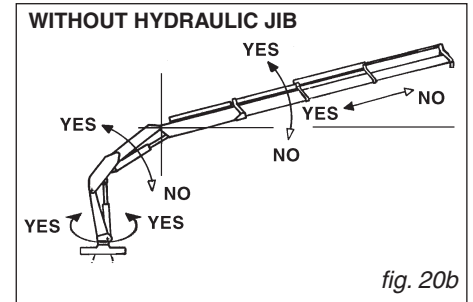
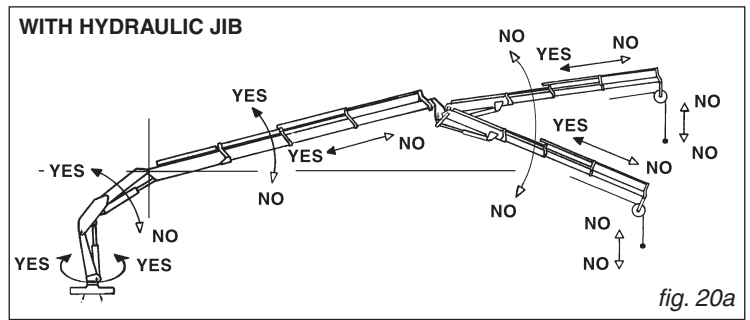
Manoeuvres not allowed:

- Inner boom lift
- Outer boom lift
- Extension of the crane extension boom sections (*)
- Lift of the hydraulic jib
- Extension of the extension booms section of the jib
- Winch rope lift
- Movement of the hydraulic accessories (**)

- NOTES:** (*) If the overload condition has been activated by the hydraulic extension, the extension of the crane boom sections is permitted.
(**) It is permitted only when coupled with permitted manoeuvres.

Manoeuvres allowed: all the manoeuvres that bring the load closer to the column and therefore the overload

- Rotation in both directions
- Inner boom descent
- Outer boom descent
- Re-entry of the crane extension boom sections



17.1 Generality

The crane, in load condition **H1B3**, can be provided with implements such as:

- Manual extensions
- Winches
- Hydraulic extensions
- Personnel baskets
- Clam 'shell buckets
- Augers

- (!) When using an implement it is always necessary to check that its weight, dimension and capacity is matched to the crane performances.
For further information please refer to **FASSI GRU IDRAULICHE**

Warning and norms for crane use also apply for hydraulic implement use.

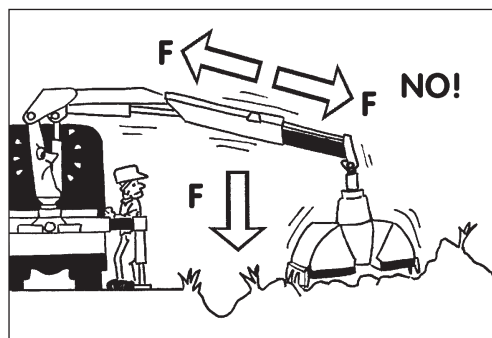
Before using a personnel basket it is necessary to provide the crane with the safety devices requested by the local norms in force, EN280 in Europe, and prior to use of the crane it has to be tested and inspected in accordance with the local legal requirements.

- (!) When the crane is fitted with implements or laid on the truck body it is necessary to check they are locked to assure the impossibility of accidental movements and that the led signalling maximum obstruction in height (if fitted) confirms the correct positioning of the crane.
- (!) The crane can operate, intermittently and not continuously, with lifting devices other than the hook, only on loose and light materials (not on scrap iron).

(!) ATTENTION (!)

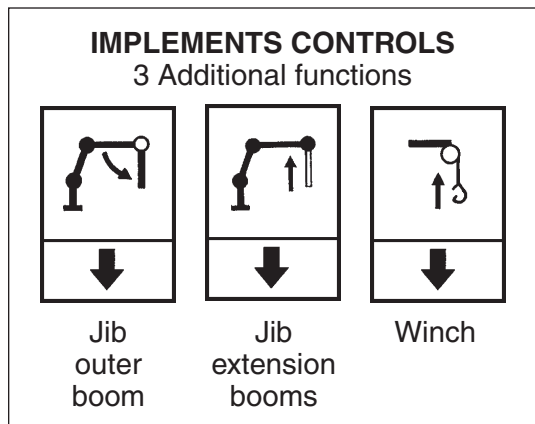
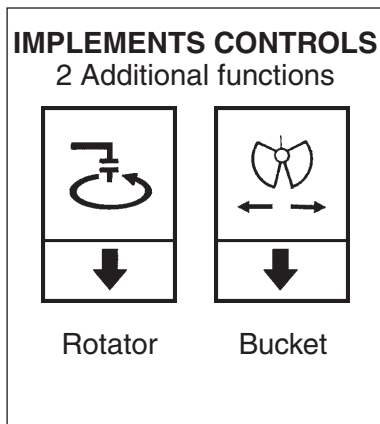
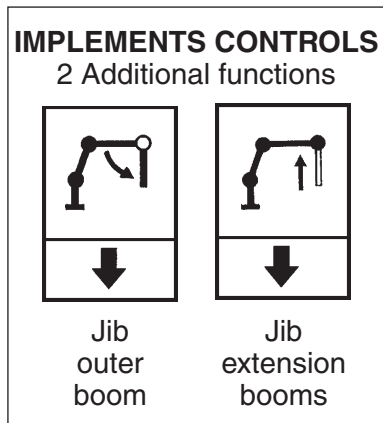
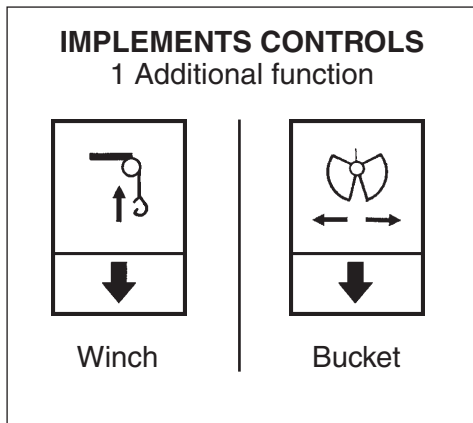
In case of using the crane with lifting devices other than the hook, the access to the working area at the persons must be prevented.

The dimensions and the capacity of the implements must be proportioned with crane performances.



(!) WARNING (!)

CRUSHING (F) OR PUSH (F) MANOEUVRES ARE NOT PERMITTED.



The plates placed over each lever define their function in relation to their movement.

(!) ATTENTION (!)

The sequence of the plates placed on the crane controls may be different.

Make sure that the lever you are going to operate correspond to the control you selected.

22.1 Generality

To assure a long life to the crane, it is necessary to meticulously follow the maintenance instructions.

General lubrication and small repairs can be carried out by the user; repairs of a more complicated nature must be carried out by authorized service personnel.

Spare parts must be original.

Good maintenance and proper use are imperative to maintain efficient use and guarantee the safety of the crane.

At least once a year you must take the crane to a **Fassi Service Center** for a check.

(!) Before disconnecting any hydraulic hoses, ensure that there is no pressure in the hydraulic circuit. After removing hoses always mark them and their respective ports on the crane. Faulty replacement can cause damage to the rams and to the hydraulic circuit.

Respect the information supplied for maintenance and technical assistance.

Any maintenance operation must be carried out with the crane power source turned off. (in case of fixed mounting with hydraulic power pack, the electric motor has to be turned off).

Do not place limbs, fingers or any other parts of anatomy into areas of the crane, which present possibilities of shearing, without having blocked such parts of the crane.

Do not weld, drill or grind any part of the crane without the Manufacturer's authorisation.

Do not weld the fixing rods of the crane (see plate **DE1574** fig. 29)

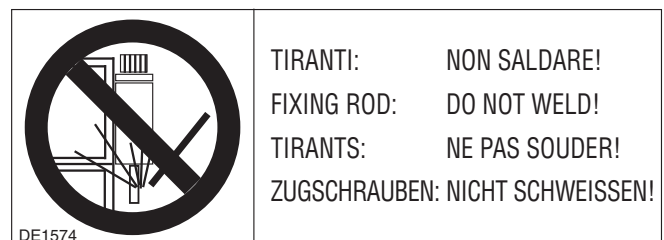
When repairs to, or checks of, the hydraulic circuit and of the rams are carried out, it is very important not to use, or be in the proximity of, materials which can damage the circuit or contaminate the hydraulic oil eg. metal shavings, sand or dust.

Do not use the high pressure washing on the controls (deviators, distributors, double controls, hand cable controls...), on the electronic components (boxes, control panels...), on the tanks.

Never use detergents, petrolsol or inflammable liquids, always use non flammable or non toxic liquids.

To avoid down time, it is recommended to periodically carry out the following checks.

fig. 29



CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL

- Thank you very much for reading the preview of the manual.
- You can download the complete manual from: www.heydownloads.com by clicking the link below



- Please note: If there is no response to CLICKING the link, please download this PDF first and then click on it.

CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL