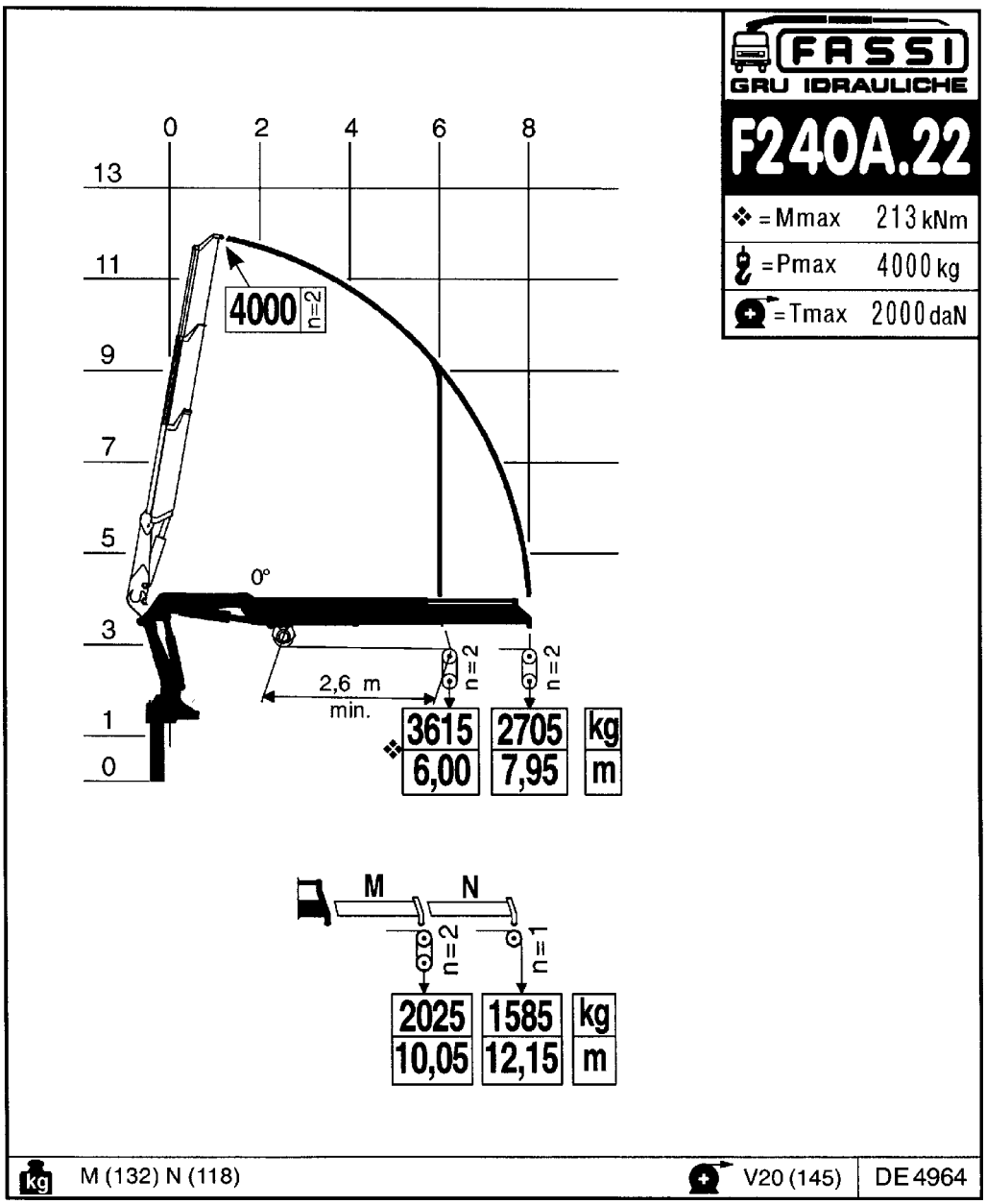
F 240A.22

use and maintenance

FROM SERIAL NUMBER *3001*

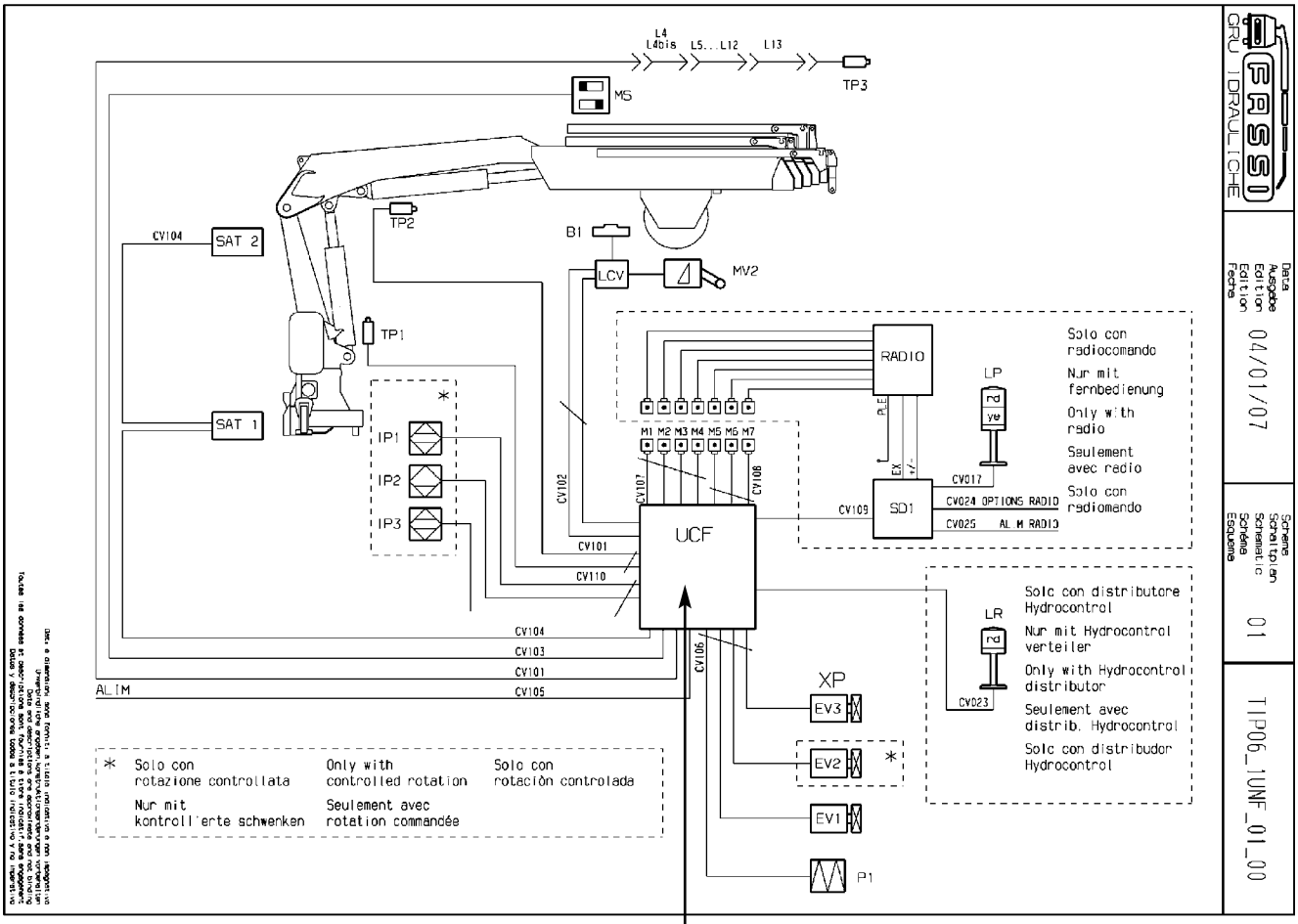
INDEX

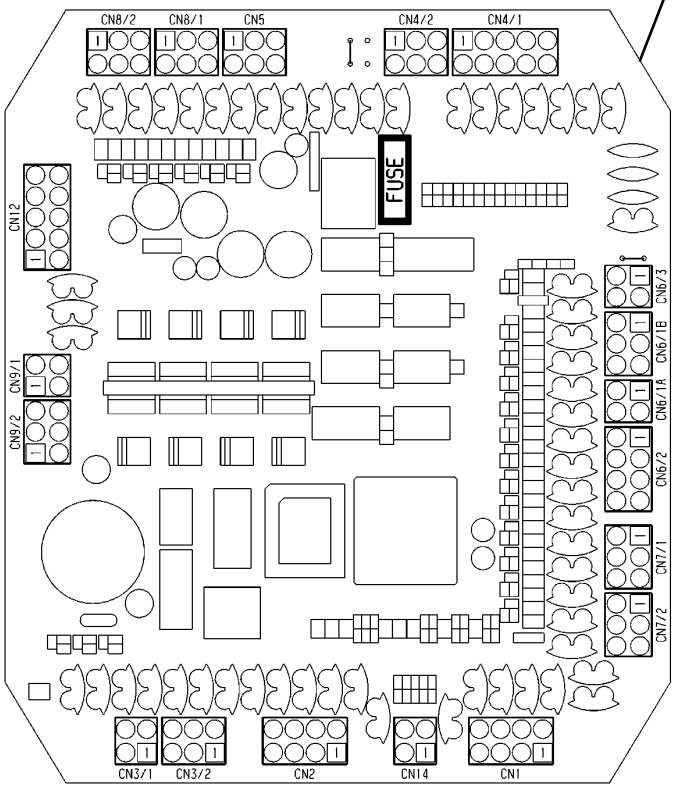
3.1-5 Capacity plates with lifting moment limiting device



5 ELECTRIC SCHEMATICS

Electric schematic for crane





N°	DESCRIPTION
ALIM	ELECTRICAL FEED CABLE MAIN CONTROL PANEL
EV1	ELECTROVALVE FOR CRANE BLOCK
EV2	ELECTROVALVE FOR LIFTING MOMENT LIMITING DEVICE OF THE TWO WORKING ZONES
EV3	XP ELECTROVALVE
LP	FLASHING
IP1/2/3	PROXIMITY MICROSWITCH FOR ROTATION CONTROL
LCV	WINCH LOAD LIMITING DEVICE
LR	ACTIVATION OF OVERLOAD BLOCK RED WARNING LIGHT
M1	MICROSWITCH ON THE DISTRIBUTOR (ROTATION)
M2	MICROSWITCH ON THE DISTRIBUTOR (INNER BOOM)
M3	MICROSWITCH ON THE DISTRIBUTOR (OUTER BOOM)
M4	MICROSWITCH ON THE DISTRIBUTOR (CRANE EXTENSION BOOMS)
M5	MICROSWITCH ON THE DISTRIBUTOR (JIB BOOM)
M6	MICROSWITCH ON THE DISTRIBUTOR (JIB EXTENSION BOOMS)
M7	MICROSWITCH ON THE DISTRIBUTOR (WINCH)
MS	MERCURY LEVEL SENSOR ON THE OUTER BOOM
MV2	DRUM MICROSWITCH WINCH
P1	PRESSURE SWITCH FOR THE RE-ENTRY OF THE EXTENSION BOOMS
UCF	MAIN CONTROL PANEL (FX000)
S1/2/3/...	CONNECTORS
SAT1	DOUBLE CONTROL SIDE SATELLITE
SAT2	SATELLITE FOR 3° CONTROL STATION
SD1	SHUNT BOX 1
TP1	PRESSURE TRANSDUCER FOR INNER RAM
TP2	PRESSURE TRANSDUCER FOR OUTER RAM
TP3	PRESSURE TRANSDUCER FOR THE JIB RAM

9 CRANE NOMENCLATURE

9.1 Crane with ground controls on both sides. Crane with ground controls on both sides and with top seat controls by hand cables (on request)(fig. 4).

Pos. Description

1. Outrigger rams
2. Outrigger supports
3. Base
4. Rotation cylinders
5. Deviator crane-outriggers
6. Dual control for deviator crane-outriggers
7. Outrigger distributor
8. Outrigger double control
9. Distributor bank
10. Double control
11. Column
12. Inner ram
13. Inner boom
14. Outer ram
15. Outer boom
16. Booms extension rams
17. Extension boom sections
18. Lifting hook
19. Oil tank
20. Manual extensions (optional)
21. Seat (optional)
22. Hand-cables for crane (optional)

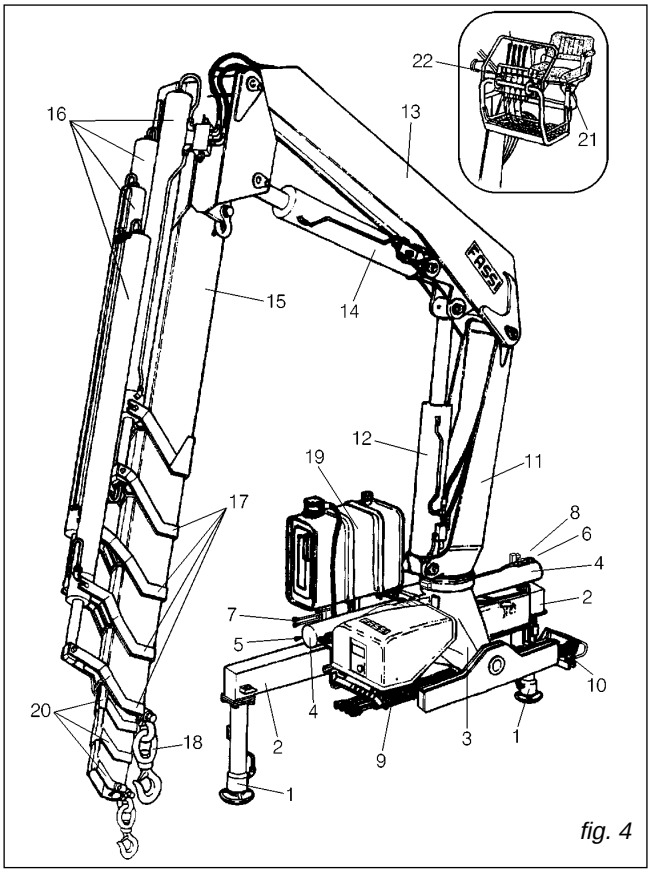


fig. 4

9.2 Crane with top seat controls and with ground controls for outriggers. (fig. 5)

Pos. Description

1. Outrigger rams
2. Outrigger supports
3. Base
4. Rotation cylinders
5. Deviator crane-outriggers
6. Dual control for deviator crane-outriggers
7. Outrigger distributor
8. Outrigger double control
9. Column
10. Seat
11. Distributor bank
12. Inner ram
13. Inner boom
14. Outer ram
15. Outer boom
16. Booms extension rams
17. Extension boom sections
18. Lifting hook
19. Oil tank
20. Manual extensions (optional)

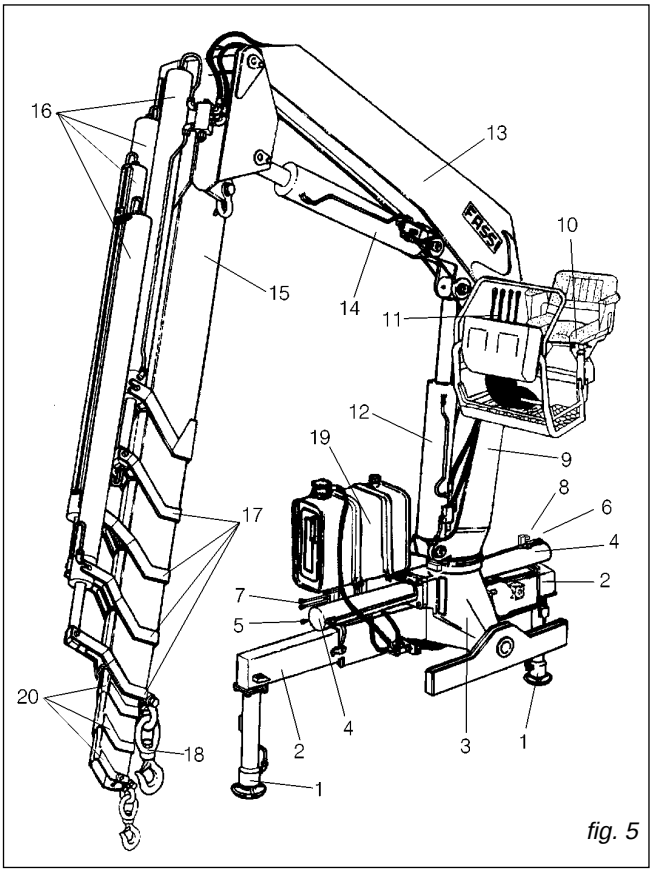


fig. 5

13.3.1 Crane with hydraulic tiltable supports (with hydraulic motor) for outrigger rams:

(!) ATTENTION (!)

Be very careful during vehicle stabilization operation; make sure that there are no obstacles preventing the rotation of the rams **and that no one is or transits in close proximity of the working area of the outrigger rams.**

- Disengage the locking devices of the outrigger supports by putting the levers **A** from the position of the fig. 11 to the one of the fig. 11a.
- Position lever **D** of oil diverter (-**E/S**) on **E/S**. DE4488 fig. 11b

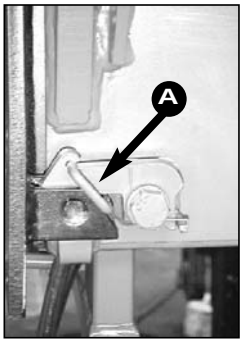


fig. 11

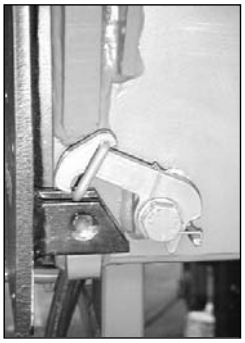


fig. 11a

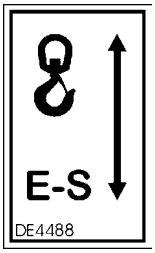


fig. 11b

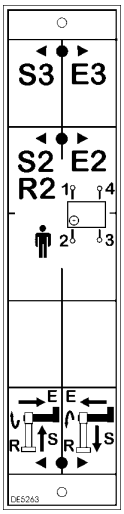


fig. 13

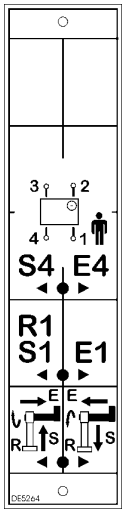


fig. 14

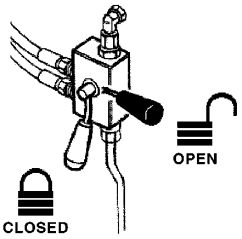


fig. 12

Controls workable from the distributor side of the crane fig. 13 DE5263

Controls workable from the double control side of the crane fig. 14 DE5264

- By using the levers **CD**, the lever **C** and the valve taps, extend the outrigger supports, rotate the outrigger rams putting in a working condition and lower them till the complete stabilisation of the vehicle.

Example of using the levers **CD**, the lever **C** and the valve tap on the outrigger:

- **extension of the outrigger support n°1**
  - activate the corresponding lever **CD** towards right (**E1)** and keep it in position;
  - activate the lever **C** towards right to obtain the extension of the support;
- **rotation of the outrigger ram n°1 from the rest position (fig. 15) to the working condition (fig. 16)**
  - make sure that the tap **R1** of the valve of the outrigger ram **S1** is closed (for the closed or opened position see fig. 12);
  - before removing the pin **1** proceed as follows:
    - activate the corresponding lever **CD** towards left **(S1 R1)** and keep it in position;
    - activate the lever **C** in the opposite direction to control the rotation and take the ram **S1** to its rest position so that the pin **1** is extractable;
    - to remove the pin **1** rotate its handle **B** in the anticlockwise rotation after disengaging the safety device **F**;
  - to rotate the outrigger ram **S1** proceed as follows:
    - activate the corresponding lever **CD** towards left **(S1 R1)** and keep it in position;
    - activate the lever **C** in the opposite direction to control the rotation and take the ram **S1** to its working condition.

!!! ATTENTION !!!

Make sure that no one is or transits in close proximity of the working area of the outriggers.

- insert the pin **1** in its new seat and lock it with a clockwise rotation (the safety device **F** sets off automatically);

(!) The locking pin 1 is constructed from special material
- do not replace it with a non original part
- your security depends on it

What to do in case of alarm

CODE	REMEDY
01	Take off the tension to the system and take on again the tension. If the problem remains, take off the tension to the system again, take on the tension and wait 12 minutes (12 minutes waiting time is a compulsory condition and needs to be checked with a watch), take off the tension to the system again, take on again the tension. If the problem remains, you must immediately go to a FASSI **authorised Center**.
02	Check the connector of the pressure transducer. If the problem remains, you must immediately go to a FASSI **authorised Center**.
04	See code 02.
06	See code 02.
08	Check if the red light on the proximity sensor is off and verify if the metallic band is rightly positioned.
09	See code 08.
10	Check that the connector of the mercury sensor level is not damage. If the problem remains, you must immediately go to a FASSI **authorised Center**.
11	You must immediately go to a FASSI **authorised Center**.
12	See code 11.
14	See code 11.
15	See code 11.
16	See code 11.
17	See code 11.
18	See code 11.
19	See code 11.
20	See code 11.
21	Replace the 10A fuse at the nearest workshop after removing the carter and the cover of the main panel FX000. (See electric schematic Par. 5)
22	See code 11.

Only for crane with slew ring:

30	See code 11.
31	See code 11.
32	See code 11.
33	See code 11.
34	See code 11.
35	See code 11.
36	See code 11.
40	See code 11.
41	See code 11.
42	See code 11.

MESSAGES	REMEDY
"WINCH OFF"	Place the distributor bank lever controlling the winch in neutral position.
"WINCH CAL.ERROR"	See code 11.
"STOP BOOM OUT"	Place the distributor bank lever controlling the extension booms in neutral position. If the warning appears when the winch cable lifting stroke end is not reached, place in any case the lever in neutral position and then restart to operate.
"STOP BOOM UP"	Lifting functions not available; are authorized only descent functions.

To verify the right working of the differents input it is possible to use the display in the "INPUT" menu.

b. "NO LOAD" (fig. 13)

In this case the load exceeds the max lifting value of the selected manual extension (it could still be on the ground). Unhook the load since it cannot be lifted using the selected manual extension. As in the preceding case, if you keep pressed the "F2" key, it is possible to have an indicative evaluation of the weight applied on the hook (fig. 11).

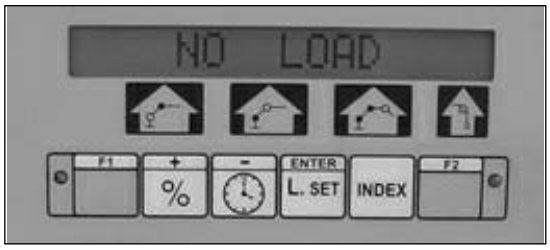


fig. 13

fig. 13

c. "NO SPEED" (fig. 14)

The load has been lifted too quickly; the whole procedure must be repeated from the beginning. The "LMI" key on the push-button panel or "F2" key on the control panel is disabled because it has not been possible to calculate the applied weight. Press INDEX on the push-button panel or "F1" key on the control panel to exit the procedure and go back to the standard operation. Put down the load on the ground and repeat the whole procedure from the beginning.

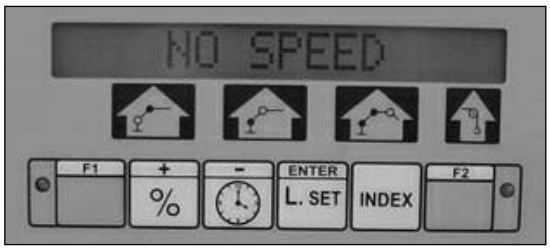


fig. 13

fig. 13

d. "NO LOAD CRANE!" (Fig. 15)

This message informs that the lifted load exceeds the max limit value of the crane/jib, irrespective of the manual extensions, so that the load cannot be lifted in this configuration due to the crane/jib overload. Also in this case the load must be either removed or approached to the crane, and handled in a different way without using the selected manual extension. Moreover the whole procedure must be repeated from the beginning.

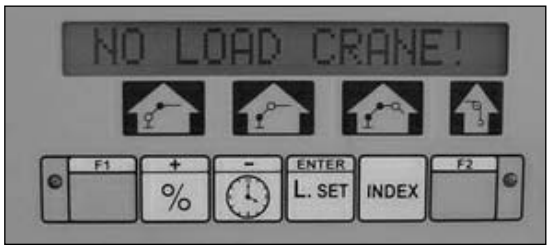
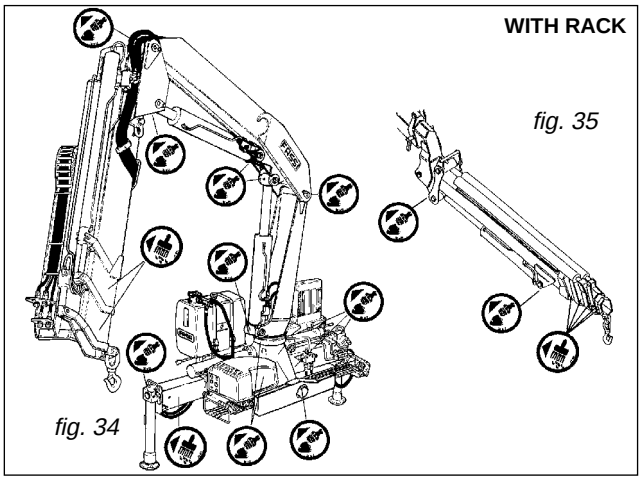


fig. 13

fig. 13

All the lubricators mounted on the crane are protected by a plastic cap so to avoid the oil contamination.

22.5 After every 100 working hours or more frequently in case of more intensive utilisation

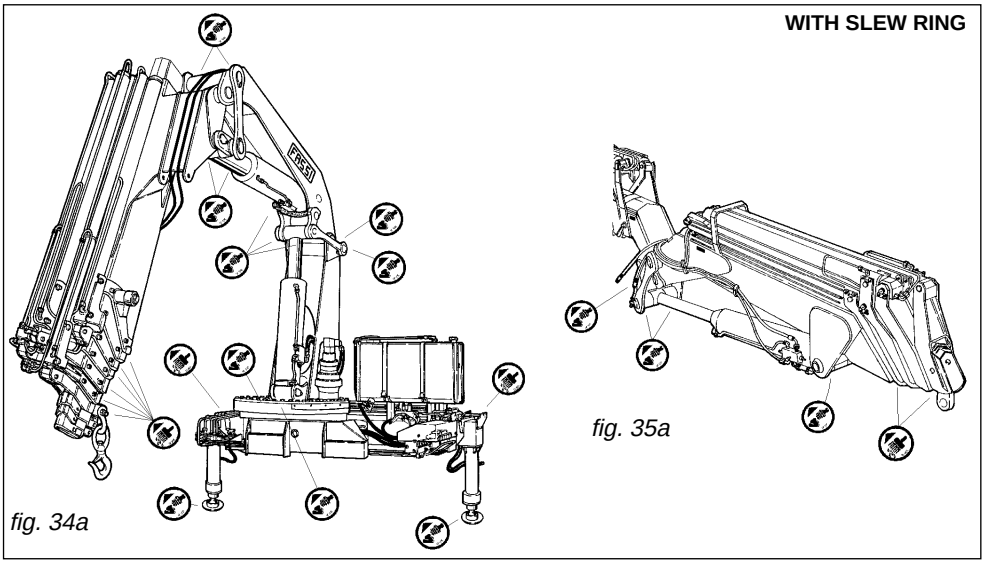


WITH RACK

Periodically grease the points indicated on the crane (fig. 34) (and on the hydraulic jib, when fitted, fig. 35) paying particular attention to the points not easily detected. For the sliding sections of the outrigger supports and of the extension booms guide shoes made from a special material have been fitted: to ease their movement it is recommended to smear a light film of grease on them, taking care that the surfaces of the extension booms are free from impurities such as sand etc. Top up using hydraulic oil with the same characteristics as those indicated in the table at paragraph 23.

WITH SLEW RING

Grease the slew gear to prevent friction during rotation and to ensure that it is stable by preventing water (corrosion protection) and contaminants from entering the bearings. For a better internal distribution of the grease it is advisable to rotate the crane and grease it in such a way as to see grease at the seals. Top up using hydraulic oil with the same characteristics as those indicated in the table at paragraph 23. Grease the winch cable (if fitted) after having first cleaned the cable of any encrustation (grease mixed with sand, dust, dirt etc.) The lubricant used must guarantee a good level of penetration in order to lubricate both the inside and the outside of the cable. Top up using hydraulic oil with the same characteristics as those indicated in the table at paragraph 23.



22.6 After every 500 working hours or atfter every 6 working months

Check the tightening torque:

- of the fixing rods of the crane; consult the following table in order to find it's value according to the bolt diameter:

Table of the tightening torques of the fixing rods of the crane on the vehicle From "C0404 Kit for crane fixing".

D. Fixing rods	Tightening torque = Nm
M22x1,5	300
M24x2,0	400
M27x2,0	600
M30x2,0	471
M33x2,0	1200
M39x3,0	1800