TEREX

LIFTING

PPM

ATT 1300

MAINTENANCE AND OPERATOR'S MANUAL

N°

EDITION: 11/1998

REF. X 60440–76A

Technical specifications

Identification

MAKE :

TYPE :

MANUFACTURER :

PPM

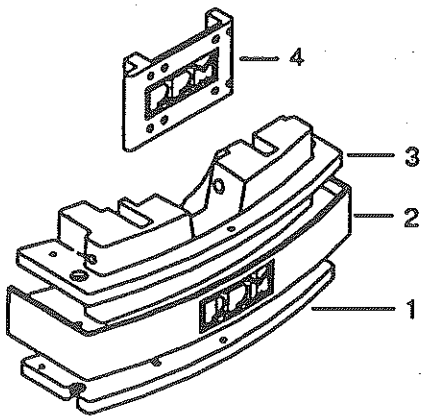
Z.I. de La Saule

71304 MONTCEAU Les MINES B.P. 106

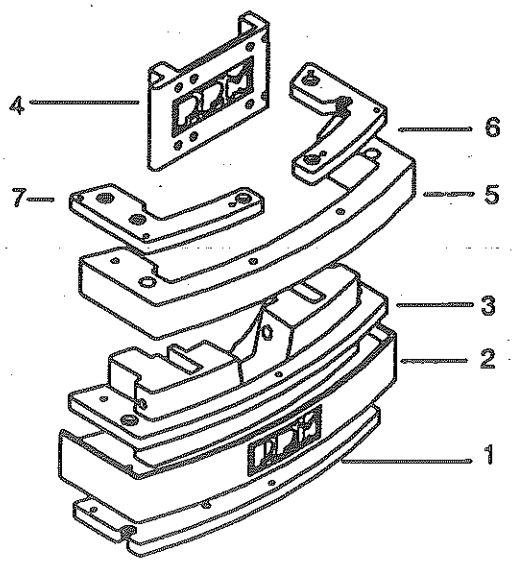
FRANCE

DESCRIPTIF DES COMPOSITIONS DE CONTREPOIDS ATT 1190

COURBE DE CHARGE PTR 58 t. (5 x 12 t.) – CP 7,9 t.

ROUES 1400 x 25 AVEC EXTENSION			
REP.	REFERENCE	POIDS (t.)	COMPOSITION DES CONTREPOIDS
1	X 54284 35	1,200	
2	V 02139 19	5,800	
3	W 54284 34	0,550	
4	X 82038 66	0,400	
		Total = 7,950	
OPTIONS			
Treuil auxiliaire : déposer le rep. 4			
Roues 1600 x 25 : déposer le rep. 3			

COURBE DE CHARGE PTR 60 t. (5 x 12 t.) – CP 10 t.

ROUES 1400 x 25 SANS EXTENSION			
REP.	REFERENCE	POIDS (t.)	COMPOSITION DES CONTREPOIDS
1	X 54284 35	1,200	
2	V 02139 19	5,800	
3	W 54284 34	0,550	
4	X 82038 68	0,400	
5	U 02139 18	1,600	
6	V 54284 33	0,265	
7	U 54284 32	0,235	
		Total =10,050	
OPTIONS			
Treuil auxiliaire : déposer le rep. 4			
Roues 1600 x 25 : déposer le rep. 3			

Always check if there are any power lines in the area before starting work. It is highly recommended to keep a distance of more than 6m between any part of the machine and a power line. Always stay as far as possible from power lines, NEVER violate minimum distances. The EASY SLI unit allows either the derricking angle, or the boom head height to be limited. Use this function.

How to react in case of accidental contact.
No set rules are to be followed, an analysis of the situation and its risks is necessary on each occasion. The operator should be aware of how to handle such a situation and preferably be trained for such an event
The machine is in working order :
The operator must immediately move the machine away from the power line or electrified equipment without getting out of the cab.
The machine is no longer in working order :
Without getting out of his cab the operator must inform all personnel in the vicinity, by hand signals or verbally, that they must not approach the machine. (Risk of electric arcing).
If the operator is absolutely obliged to leave the crane cab and get off the machine he must do this by jumping so as never to be simultaneously in contact with the machine and the ground.
Once on the ground he must move away from the machine :

- either by jumping with feet joined,
- or by very small footsteps.

Any new approach to the machine can only be made once that it has been confirmed and verified that power has been effectively cut. This must be done in conjuction with the local power company.

The machine is fitted with tires :
When a tire fitted mobile crane comes into contact with overhead power lines the metal carcassed tires which have not been destroyed do not retain either their insulation characteristics or, above all, their mechanical resistance characteristics. Tire explosion, if not immediate, often happens later after long exposure in the sun.

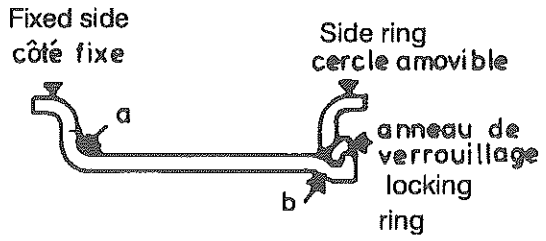
THE OPERATOR'S MANUAL must always be left in the driver's cab.
Contact your local PPM Dealer to obtain another copy if required.

Tyre changing

Before any operation, make sure that the tyre is completely deflated.
Do not stand in front of the wheel during this operation.
Carefully control the rim and wheel centre for the following defects each time the wheel is removed or the tyres changed :

- Excessive rust or corrosion
- Distorted wheel rim edges
- cracks in the wheel rims
- cracks in the wheel centres
- Deterioration of the side rings and locking rings

Check that all mobile parts : side rings and locking rings (b), are compatible with the rim.
Check that all different parts seat correctly in their normal position (locking ring well seated inside its groove, for example).



During checks, if any part of the wheel rim assembly is defective, they must be immediately rejected and replaced by new parts.
In the event where paintwork has been deteriorated, or there are signs of rust, the rims can be refurbished by eliminating the layer of rust and repainting. Particular care should be taken to ensure that the part of the wheel rim which is in contact with the tyre remains in perfect condition.
All welding jobs on the wheel rims or centres, especially those aimed at restoring ovalized wheel stud holes on the wheel centres, are STRICTLY FORBIDDEN.

As disk wheels are important safety elements of the vehicule those which present any such defects must be immediately discarded. Any repairs carried out on disk wheels, which are exposed to important loads, provoke metal structure modifications which can lead to the failure of these parts.

Winch inspection

During the annual inspection, the theoretical length of use of the winches must be established. If necessary, the operator must consult an assessor for this task.

This requirement is compulsory in certain countries within the framework of the application of accident prevention measures at work. In those countries where these requirements are not compulsory, PPM nevertheless advises that they be observed.

1.0. Calculating the remaining theoretical length of use

The winches of the crane are assessed according to the ISO 4301/1, FEM 1001 standard, classified as follows:

	ISO / FEM
Usage class	T5
Spectrum class	L2
Mechanism group	M5

Spectrum factor Km: 0.15
Theoretical length of use D: 5000 h

The theoretical length of use should not be compared with the actual length of use of the winch.
If the crane is used in a manner which differs from its recommended usage, the user must then carry out the calculations himself.

Several external factors may influence the actual length of use of the winch.

- Unsuitable use (overloading, etc.)
- Maintenance insufficient or totally absent. Oil change frequency not carried out, use of substandard oil, quantity incorrect, or dirty oil
- Handling error. Extreme acceleration, falling load caught by the lifting cable.
- Re–assembly error during repairs or maintenance.
- Leak remaining undetected
- Safety system incorrectly calibrated
- Hidden damage following accidents
- Environmental conditions: excessively high or low temperatures, hostile atmosphere (dust, dirt, etc.).

Driving controls

Control identification

The reference numbers for the instruments and controls shown in the cab illustrations correspond to the numbers in the following text. The text identifies the controls and instruments, and describes their operation.

Notes : All standard and optional controls for this machine are identified and described in the following list. Therefore, the following list contains controls and instruments which are not furnished on every machine.

Before attempting to operate this machine, the operator should carefully study all of the information in this section and in the safe operating practices at the front of this manual.
The operator should become thoroughly familiar with the location and purpose of each control on the machine.

Each driving and operating control device is described in this Chapter in the Section : Driving Controls.

Lower right hand side carrier control panel

89 / Outrigger selection switch and indicator light

90 / Rear mirror defrost switch and warning light

91 / Flashing beacon switch and warning light

92 / Fog light control switch

93 / Hazard warning lights control

94 / Option 10 x 8:
Axle 1 lock–up control and warning light

95 / Front inter–wheel differential lock–upor Rear inter–wheel differential lock–up control and warning light

96 / Rear inter–axle lock–up control and warning light

97 / Rear steering locking control and warning light

98 / Engine stop control

99 / 12V and 24V sockets

Upperstructure cab central control panel

224 / Upperstructure locking control switch

225 / Free slewing control switch

227 / 5th section locking control switch

229 / Revolving beacons control switch and warning light

230 / Working light control switch

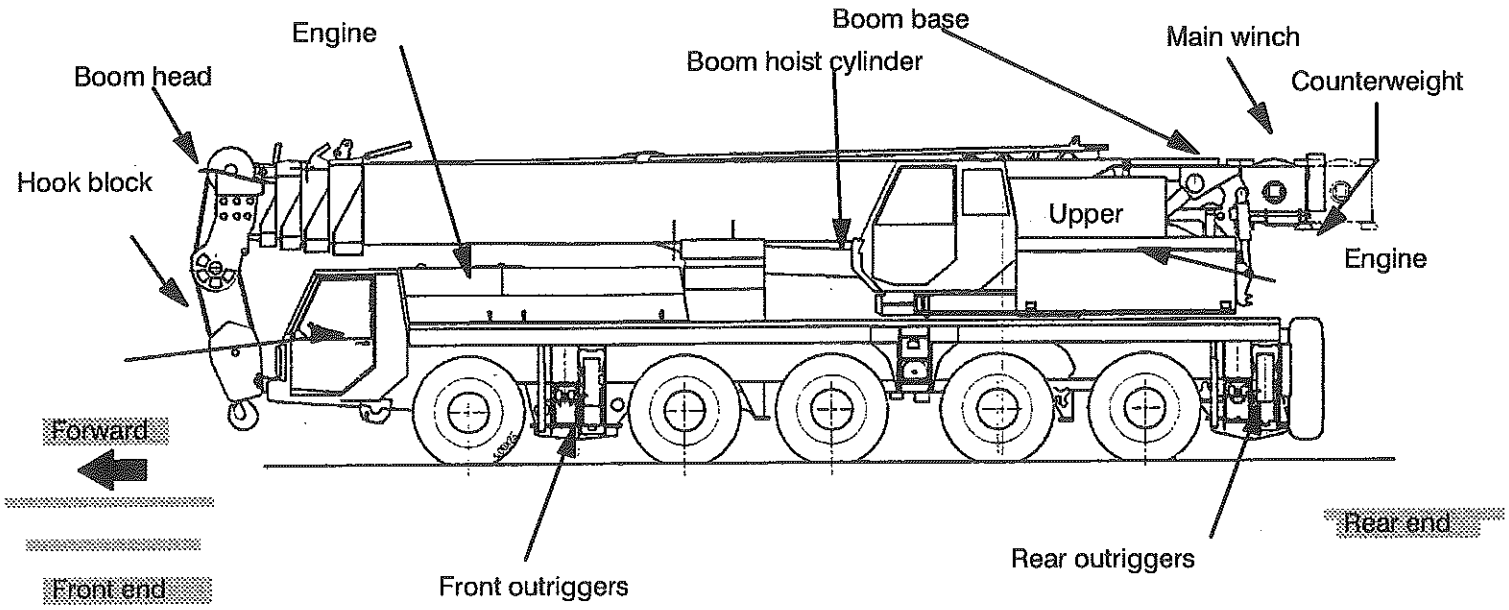
231 / Counterweight raise/lower control switch

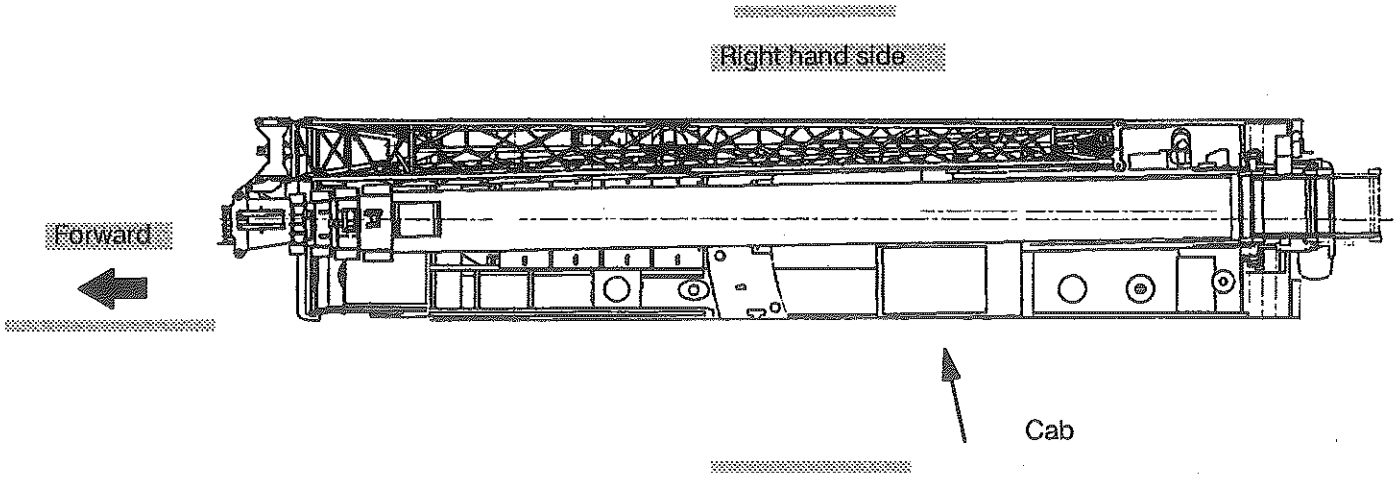
240 / Inhibited slewing warning light

241 / S. L. I. override keyswitch

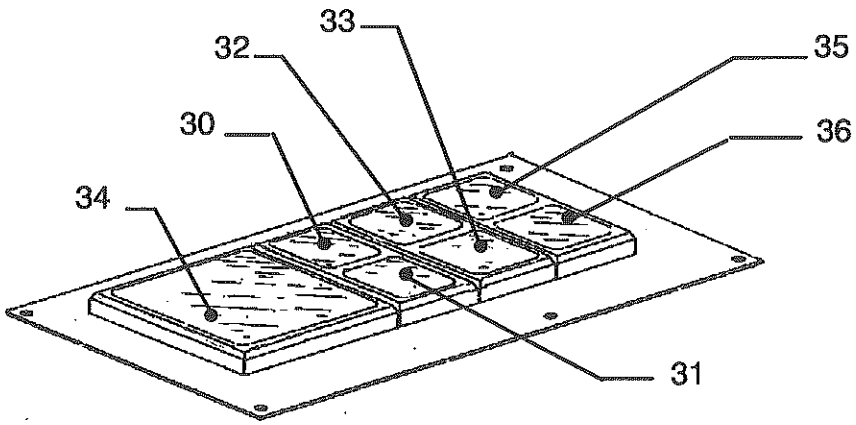
242 /S. L. I. alarm

According to the current practice
– the FRONT wheels of the carrier frame are referred to as A
– the REAR wheels of the carrier frame are referred to as R
To simplify matters we shall only use these two designations in the present notice.





Carrier cab control equipment



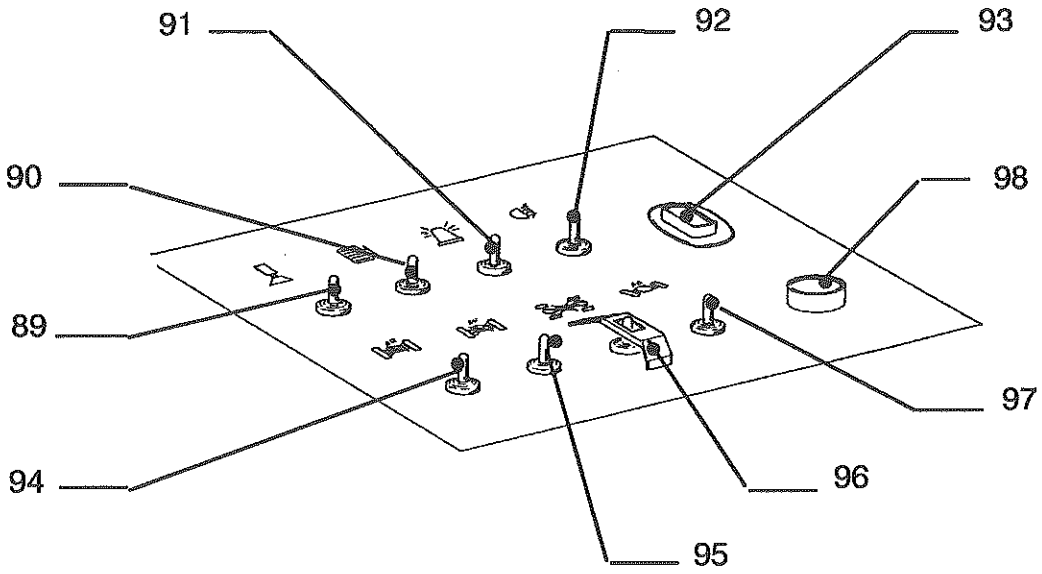
35 / Fuel gauge

This gauge indicates the amount of diesel left in the fuel tank.

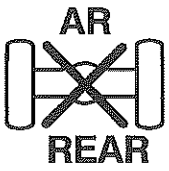
36 / Converter oil temperature gauge

Normal working temperature : 60 to 90 C
Maximum temperature which must not be exceeded : 130 C
Note : If the convertor oil temperature reaches the maximum permissible level :
– stop the machine
– put into neutral gear (position N)
– accelerate the engine to 1200/1500 rpm for around 2 to3 minutes (until the temperature comes back to normal).
– Stop using the hydraulic retarder

Carrier cab control equipment



This function can only be used if the front axle is locked up .



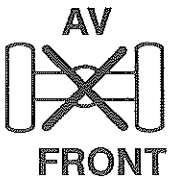
94 / Rear interwheels differential lock–up control switch

This function is only to be used in particularly difficult conditions, do not apply steering lock when this function is used.

This control must be used only on rough terrain . Never fully turn the wheels in this position.

This control locks up the rear interwheel differentials. The differentials remains locked as long as the control is held in position.

The warning light remains lit as long as the differential is locked up.



95 / Front interwheels differential locking control

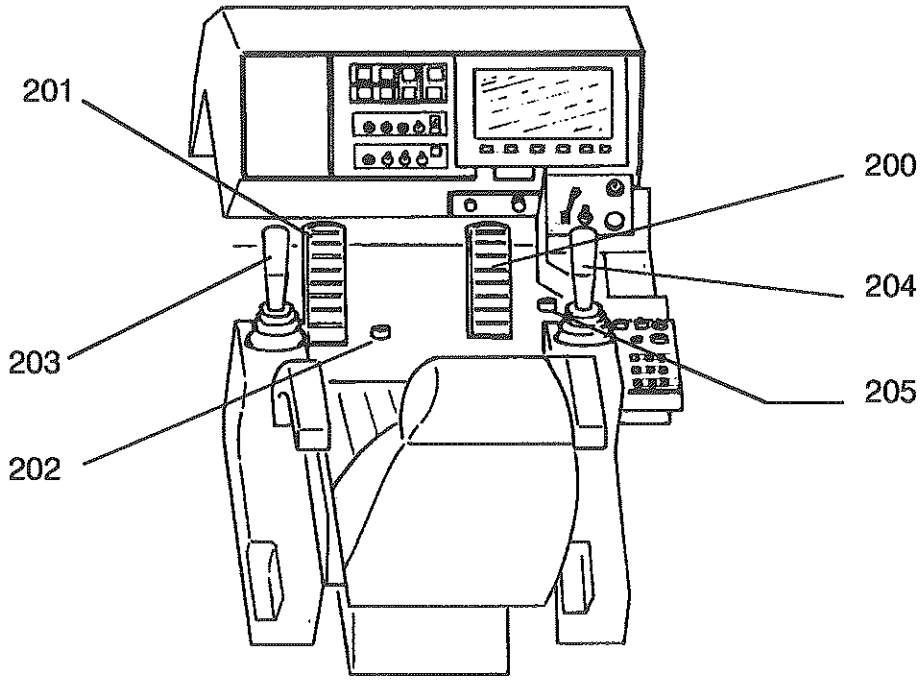
Activating this switch locks–up the front interwheel differential (when the front axle is engaged).

The differential remains locked–up as long as the switch is held in this position.

Release the return switch after having overcome difficult terrain.

The warning light remains lit as long as the differential is locked.

Upperstructure cab controls



200 / Accelerator pedal

Engine speed limited to :
2100 rpm for crane functions

201 / Free slewing pedal

If the slewing control Ref. 225 is in the free slewing position then :
- if this pedal is pressed slewing is braked
- if this pedal is released slewing is freed

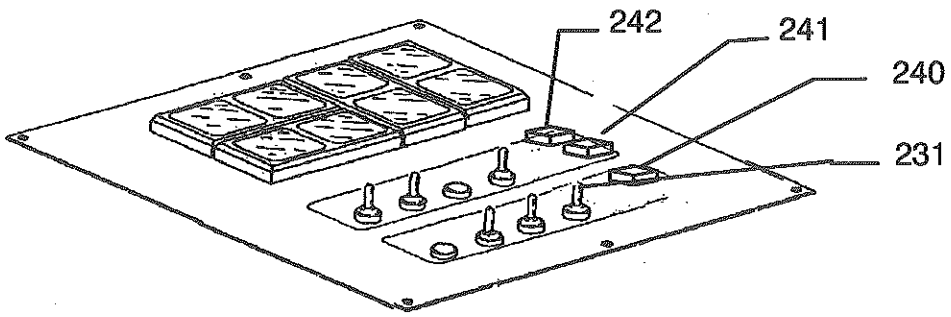
See paragraph concerning slewing in the operating chapter.

WARNING :
Always keep the slewing function braked using this foot pedal when changing to free slewing with control switch Ref. 225.

202 / Horn

Give a short blast of the horn before starting the engine, then wait a few seconds so that personnel within the working zone of the machine can get out of the way.

Upperstructure cab controls



231 / Counterweight handling arm raise – lower control switch

This function allows the handling arms to be raised or lowered in order to place the counterweights on the upperstructure or on the carrier chassis.
To set down the counterweights on the chassis :
– Set the machine on its outriggers.
– Slew the boom over the rear of the chassis.
– Lock the slewing function (control ref. 224).
– Warning light ref. 218 comes on.
(Locking the upperstructure enables the counterweight setting down function)
– Set down the counterweights (control ref. 231).
– Warning light ref. 215 goes out.
– Warning light ref. 240, indicating that the slewing function is inhibited, comes on.
– Keep switch ref. 231 activated until warning light ref. 216 comes on.
– Unlock the upperstructure, slewing is once again possible.

IMPORTANT :
The counterweight handling arms should never be in the high position without the counterweights.

Picking up the counterweights from the chassis and positioning them on the upperstructure :
– Raise the machine on its outriggers.
– Slew the boom over the rear of the chassis.
– The counterweight handling arms must be in the low position.
– Warning light ref. 216 is lit.
– Lock the slewing function (control switch ref. 224).
– Warning light ref. 218 comes on.
– Activate control switch ref. 231 to raise the handling arms with the counterweights.
– Warning light ref. 216 goes out.
– Warning light ref. 240 comes on.
– Hold switch ref. 231 in position until warning light ref. 215 comes on. The counterweights are positioned on the upperstructure.
– Unlock the upperstructure, slewing is once again possible.

Driving the machine

Introduction

This paragraph, as well as safety regulations for mobile cranes indicated at the beginning of this manual, should be carefully studied before driving the machine.

The information that follows is moreover a reminder than advice, as the constructor is aware that the machine will be entrusted to an experienced operator.

Always respect the following precautions to ensure safe operation :

Always check with the capacity chart to be aware of the maximum load that can be lifted at different boom lengths, boom angles and other parameters which must be taken into account when handling loads.

Always operate the machine using an engine speed which is adapted to the load to be handled.

Always lift the load from the ground using the winch hoist function.

If the load has to be swung always keep it as close as possible to the machine and to the ground.

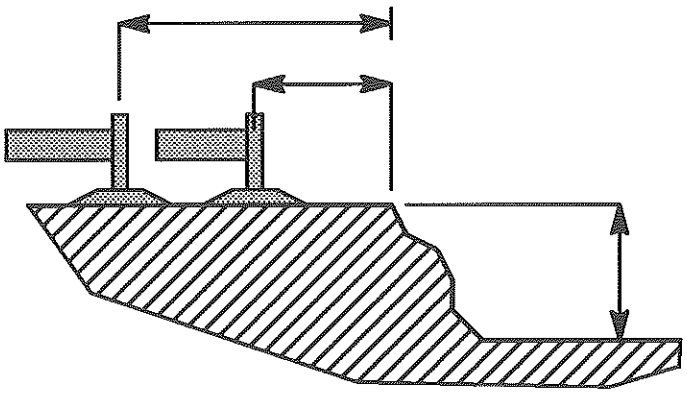
Always pay out rope when extending the boom or when lowering the boom to avoid two blocking (the hook block crashing into the boom-head).

Always raise and level the machine on outriggers before any operation. When lifting on tires always check with the load capacity chart beforehand.

Ground stability

Evaluate the ground stability in the area where the crane will work. Make sure that the ground is firm enough to support the crane. Avoid soft, unstable or partly frozen terrains.

When working near trenches :
The machine should not be positioned just next to trenches and embankments, respect sufficient safety distances according to ground conditions.
Safety distances :
Solid, non−granular terrain, **Distance 1 = Depth of trench**
Granular or backfilled terrain, **Distance 2 = Twice the depth of trench.**

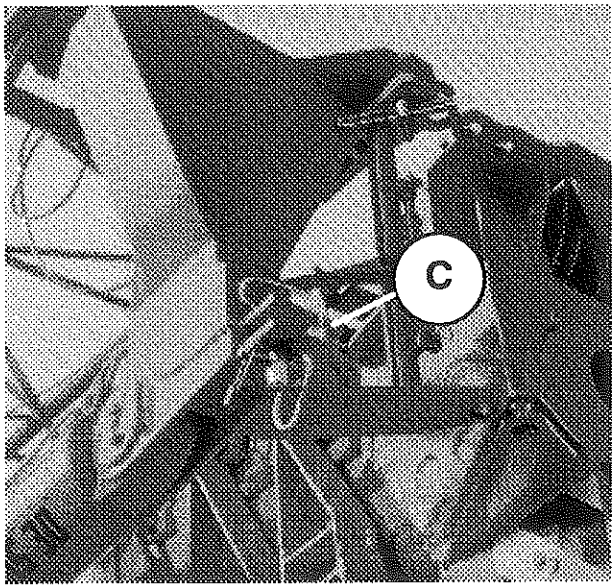


WARNING :If the machine works near a trench and the minimum safety distance cannot be respected the trench should be shored or refilled to avoid any risk of caving in.

The working surface must be able to support the weight of the crane and the load to be handled as well as dynamic stresses exerted by crane movements and winds. Maximum pressure exerted on the ground by the outrigger pads is influenced by the geometry of the crane and the load being handled.

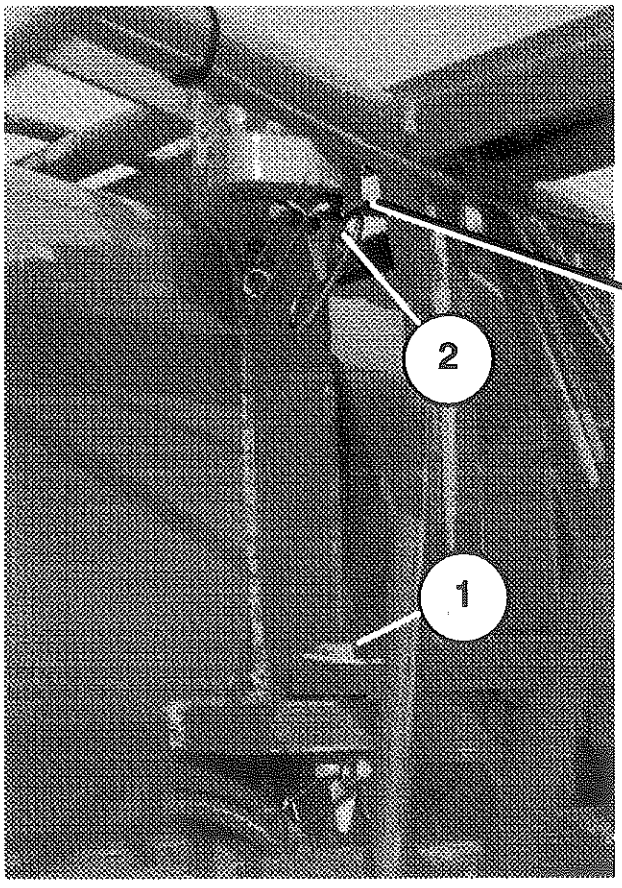
The operator, following values indicated on the chart, can decide whether the outrigger ground pads alone are sufficient, or if it is necessary to place large, thick planks under them. The ground pads must always be positioned in the centre of any additional support.

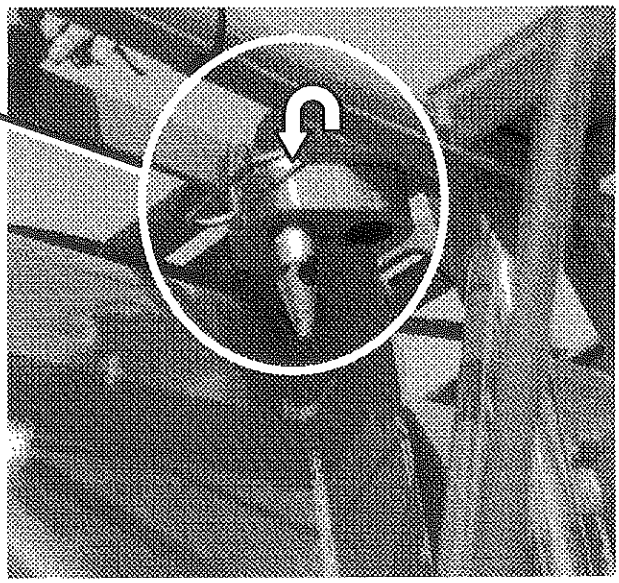
Remove the anti–return pin C to free the fork end joint



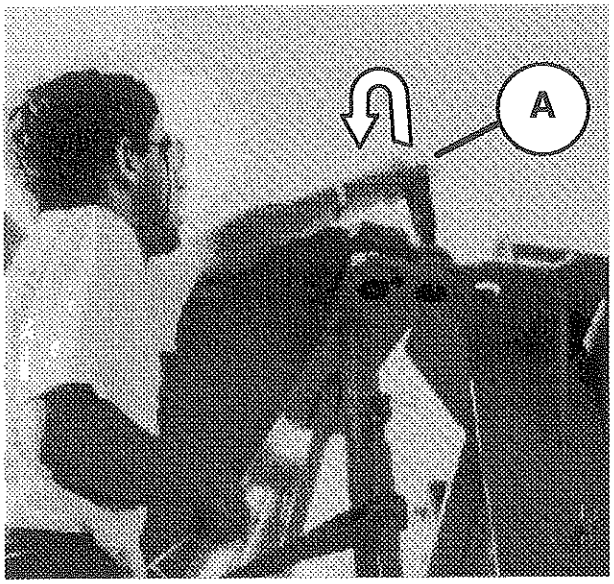
E – Freeing the extension from the bottom end of the boom base section

The extension is fixed to the boom base section by two pins which also allow it to be pivoted. Firstly, take out the lower pin and put it in its storage position. Refit the safety clip.
Secondly, take out the upper pin and put it in its storage position. Refit the safety clip.

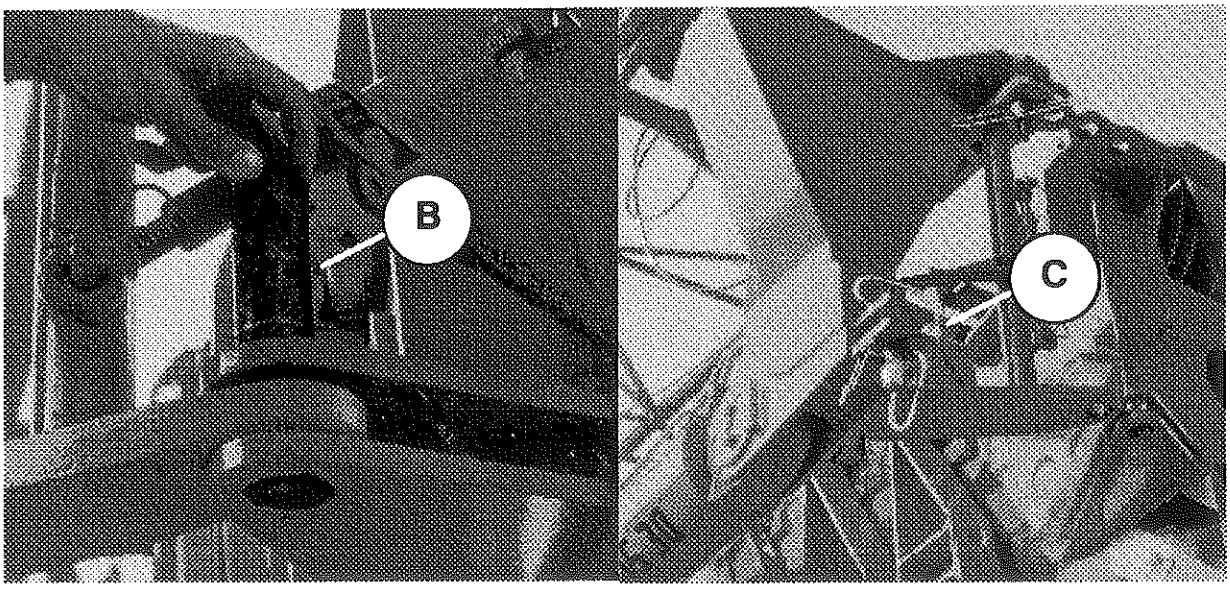




Store pin A on the upper fork end joint on the foot of the extension.

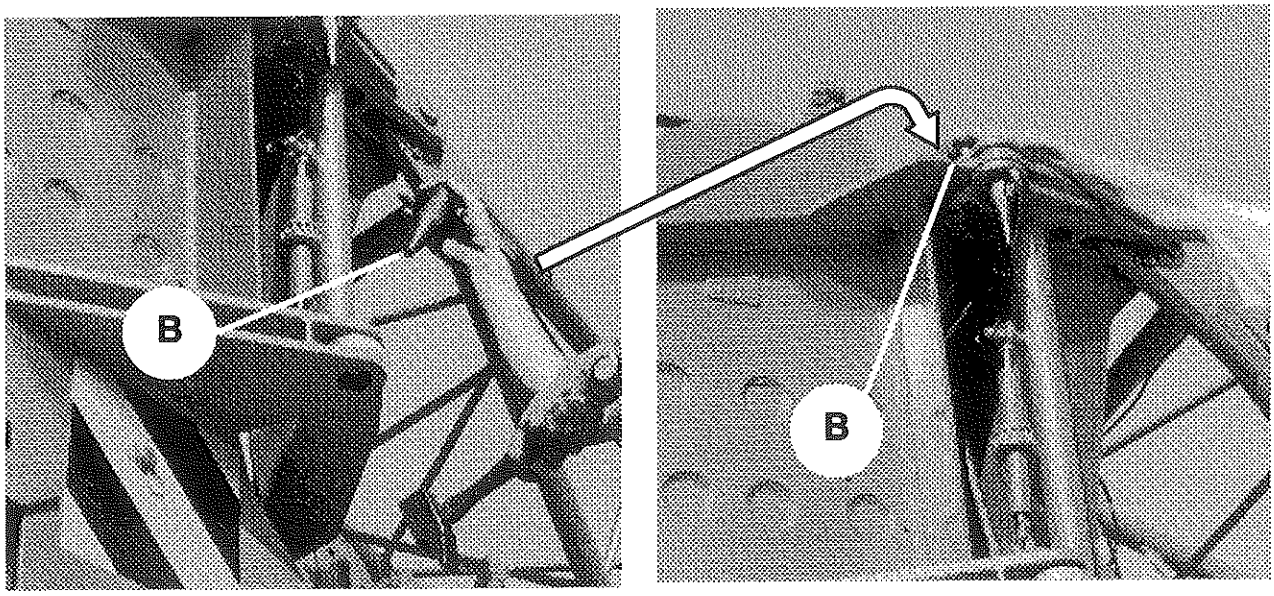


Remove pin B and store it on the upper external fork end joint on the foot of the extension. Don't forget to refit the safety clips onto the pins.

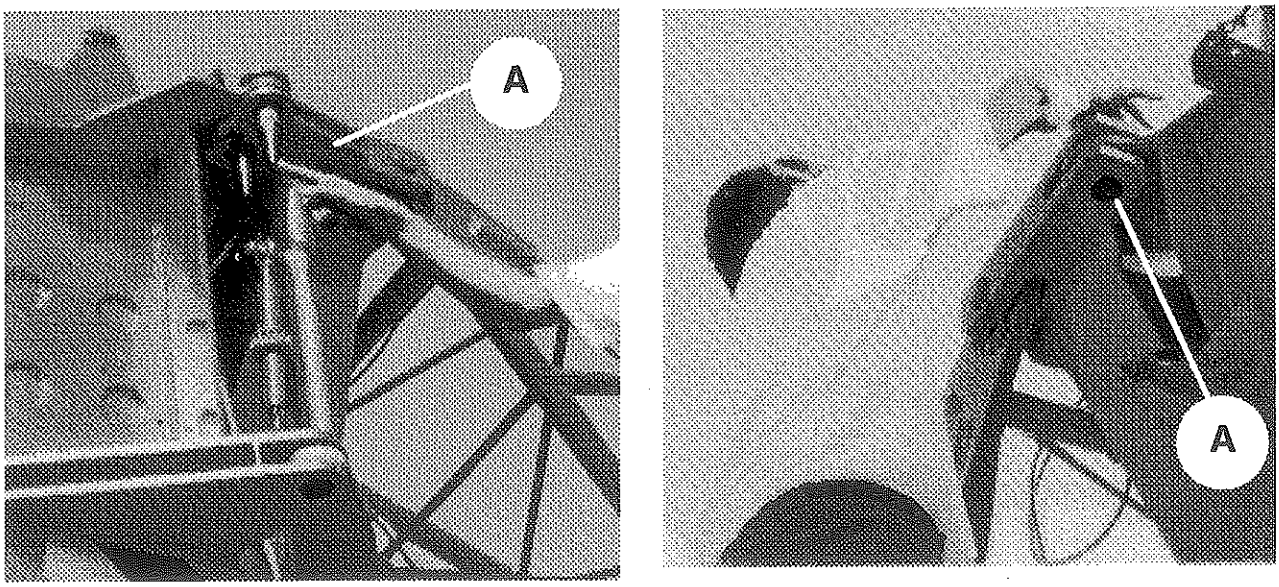


Store away the anti-return pin C on the lower fork end joint at the foot of the extension.

Remove pin B from the lower pivoting orifice and fit it in the upper pinning orifice. Refit the safety clip.
CAUTION : There must always be two pinned orifices at any one moment.



Remove pin A from the upper right hand side pivoting orifice and fit it in the fork end joint on the left hand side of the boom head. Refit the safety clip.
Use the remote control to make pinning easier.



Maintenance

V

LUBRICATION CHART			
COMPONENT	**Cold climates** −25° +25°	**Temperate climates** −15° +35°	**Tropical climates** −5 +45°
Boom chains		MOLYKOTE BR 2	
Boom slide pads		MOLYKOTE BR 2	
Grease nipples		ALVANIA EP2	
Slewing ring teeth		MALLEUS GL 205	
Slewing ring bearing		ALVANIA EP2	
Slewing reducer gear	SPIRAX HD 80W90	SPIRAX HD 80W90	SPIRAX HD 85W140
Winch reducer gear	SPIRAX HD 80W90	SPIRAX HD 80W90	SPIRAX HD 85W140
Hydraulic fluid	TELLUS T 22	HYDRAU TP	TELLUS T 68
Axle differential + reducer units	SPIRAX HD 80W90	SPIRAX HD 80W90	SPIRAX HD 85W140
Engine	RIMULA X 10W30	RIMULA X 15W40	RIMULA X 20W40
CLARK gearbox	RIMULA X 10W	RIMULA X 10W	RIMULA X 10W
ALLISON gearbox	DONAX TA	DONAX TA ou RIMULA X 15W40	RIMULA X 15W40
ZF gearbox	RIMULA X 10W	RIMULA X 10W	RIMULA X 15W40
Transfer unit	SPIRAX HD 80W90	SPIRAX HD 80W90	SPIRAX HD 85W140
ECH−FCH55&77 wet brakes	TELLUS T 22 + 5% LUBRISOL 6117	HYDRAU TP + 5% LUBRISOL117	TELLUS T 68 + 5% LUBRISOL 6117

Upperstructure Power unit

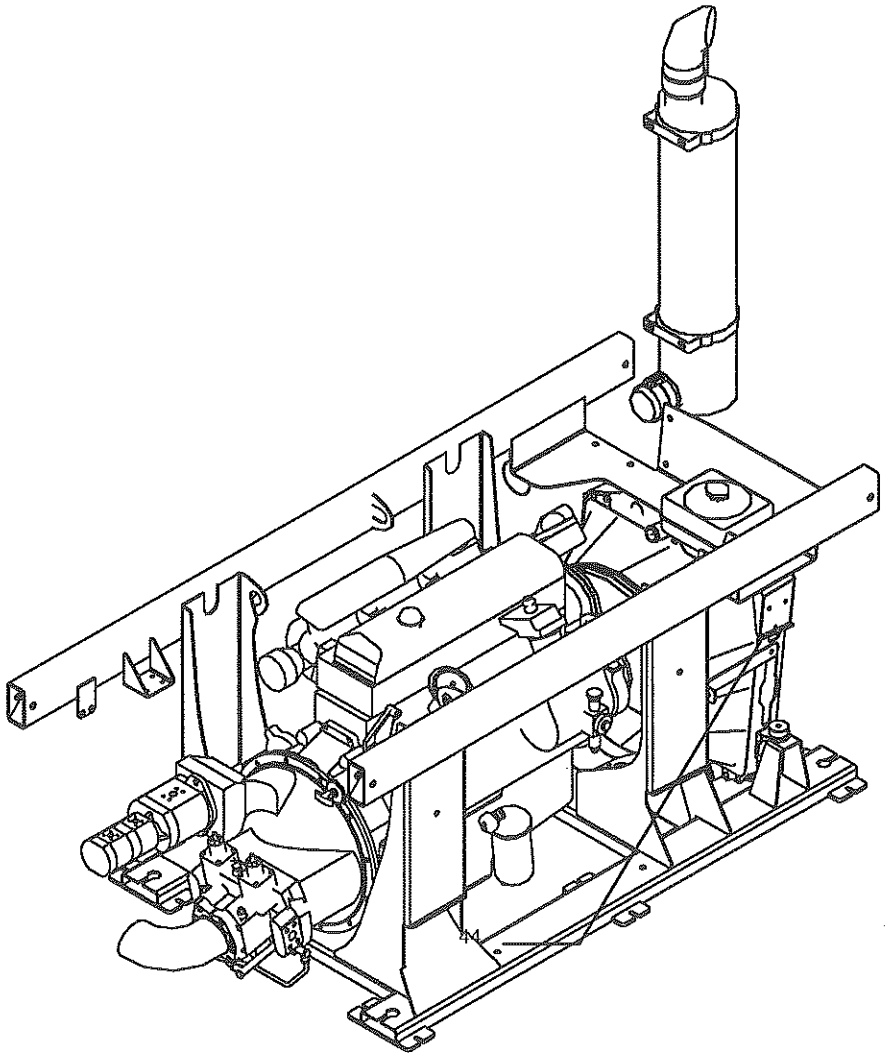


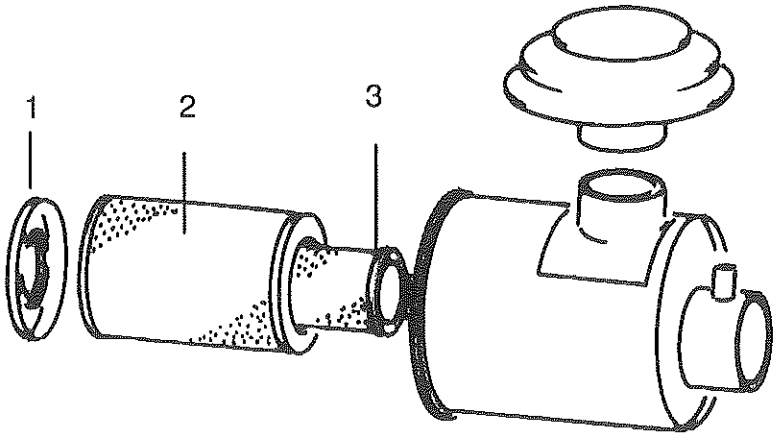
Table of capacities			
Ref.	**Identification**	**Litres**	
	Engine	18 L	

List "A" – 10h

Air filter

Check air filter

Frequency : Every ten hours.
Clean the dust collector bowl (1).



Winch cable

Visual inspection. (Refer to 500 hourly list)

List "D" – 200h/250h

Batteries

Checking the specific gravity

–check the specific gravity of each element with an acetometer (before adding distilled water).

Specific gravity	Baumé degree	observations
1.285	32°	correctly charged
1.200	24°	charged to half capacity
1.120	16°	discharged

– If necessary, recharge the batteries and have them controlled by an auto–electrical workshop.

– If the charging current is too high(requires frequent water addition) or too weak (low specific gravity), a diagnostic should be made and the cause corrected in order to prolongate battery life.

General battery maintenance

Keep the top of the batteries clean and dry to avoid short–circuits and corrosion.

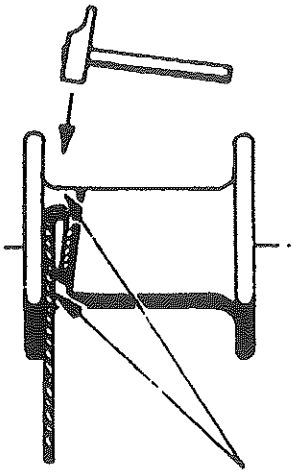
Remove the battery terminals and check to see if they are attacked by corrosion. If they are, scrape off the corrosion and a thin film of metal and coat them with petroleum jelly or another suitable product. Moderately tighten the terminals.

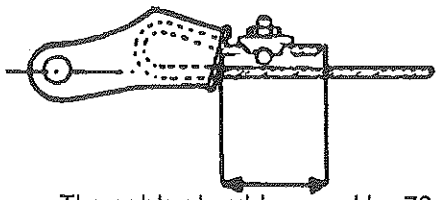
Take care when using the spanner so as not to touch the battery casing or other battery terminals. Never allow a naked flame above the batteries.

Battery fixation

Moderately tighten the battery securing bolts by only half flattening the washers, then tightening the counter nut.

After having unwound the cable, wind it onto the winch. Be careful when fitting the cable into the wedge retainer housing.
The loop should be manually preformed to a dimension which is as close as possible to its definitive dimension in order not to have to pull a long length of cable to tighten it.





The cable should exceed by 70 or 80 mm

The wedge and the cable should slide freely until the cable trapped against the sides of the wedge retainer housing

How to section a cable

Section at this →

Bind the cable on each side of the point to be sectionned before hand .

Once the cable has been wound on, double reeve a pulley block and attach a load (maximum line pull).
Completely unwind the cable using derricking and telescoping functions.
Once the cable is completely unwound, rewind it under load to put it under strain and eliminate any strain.

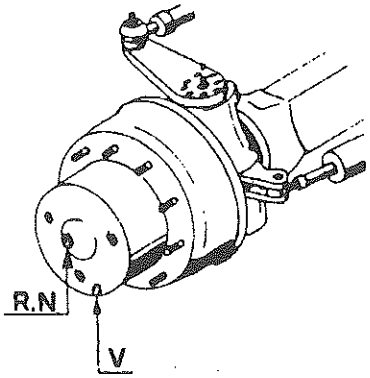
Cable maintenance.
To extend cable life, unreeve the cable after 500 working hours and stretch it out on a clean surface. Rewind the cable onto the winch.

Particular attention must be paid to the condition of mobile crane cables, and their replacement is essential at the slightest doubt.

The principal maintenance job is lubrification. The cable should be regularly lubrified according to needs and especially in areas where it is wound or bent around pullies and the winch drum.
It is essential to use equivalent lubricants as employed by the manufacturer. These are oils, which contrarily to grease, can penetrate the cable. Lubrification reduces corrosion problems, wear and the friction coefficient when the cable passes through pullies and is wound onto the winch drum.

Axle reducer gear

Oil change : every 2000 hours
Oil draining is performed with the drain plug in the bottom position after having driven the machine a few minutes to warm up the oil.
Oil capacities :
Axles nos. 2, 4 and 5 = 2 x2 L
Note : Do the first oil change after 500 working hours.



Boom

Check the telescoping chain attachments.

Counterweights

Every 2000 hours or every 6 months
Check the tightness of fixation bolts

Brakes

Every 2000 hours or once a year.
Change all flexible hoses on the brake circuit

Electrical circuit

Check the condition of all wiring looms and attachments

Cooling circuits

Change the coolant liquids.

CONTENU DU FOLIO 1 - SCHEMA CR104953B - ATT990 - 14-NOV-1994	
REP	DESIGNATION DE LA FONCTION ELECTRIQUE
7	ALTERNATEUR A REGULATEUR INCORPORE
17	DEMARREUR 24V
22	COUPE-BATTERIES ELECTRIQUE
32	RELAIS EXCITATION DEMARREUR MOTEUR
40	COMMUTATEUR CONTACT/DEMARRAGE/ANTI-VOL CABINE PORTEUR

CONTENT OF FOLIO 1 - SCHEMA CR104953B - ATT990 - 14-NOV-1994	
REP	ELECTRIC FUNCTIONS NAME
7	ALTERNATOR WITH BUILT-IN REGULATOR
17	24V STARTER MOTOR
22	ELECTRONIC MAIN SWITCH
32	24V/50A STARTER RELAY
40	CARRIER CAB/MAIN SWITCH/STARTER ANTI-THEFT CONTROL

CONTENU DU FOLIO 6 - SCHEMA CR104953B - ATT990 - 14-NOV-1994

REP	DESIGNATION DE LA FONCTION ELECTRIQUE
262	SELECTION VERROUILLAGE DIRECTION ARRIERE PORTEUR
269	DEVERROUILLAGE DIRECTION ARRIERE PORTEUR
271	SELECTION DEVERROUILLAGE DIRECTION ARRIERE PORTEUR
275	TEMOIN PORTEUR DIRECTION ARRIERE DEVERROUILLEE
277	DIRECTION ARRIERE PORTEUR [BRAQUAGE A GAUCHE]
280	DIRECTION ARRIERE PORTEUR [BRAQUAGE A DROITE]
291	DETECTEUR DE PROXIMITE ROUES ARRIERES PORTEUR VERROUILLEES

CONTENT OF FOLIO 6 - SCHEMA CR104953B - ATT990 - 14-NOV-1994

REP	ELECTRIC FUNCTIONS NAME
262	CARRIER/REAR STEERING LOCKING SELECTION
269	CARRIER/REAR STEERING RELEASING
271	CARRIER/REAR STEERING RELEASING SELECTION
275	CARRIER/REAR STEERING RELEASED INDICATOR
277	CARRIER/REAR STEERING [LEFT STEERING]
280	CARRIER/REAR STEERING [RIGHT STEERING]
291	CARRIER/REAR WEEHLS LOCKED PROXIMITY SWITCH

CONTENU DU FOLIO 11 - SCHEMA CR104953B - ATT990 - 14-NOV-1994	
REP	DESIGNATION DE LA FONCTION ELECTRIQUE
503	RELAIS PERMISSION UTILISATION BOITIER PORTEUR COMMANDE STABS
505	TEMOIN MISE EN SERVICE BOITIER PORTEUR COMMANDE STABS
520	COMMUTATION DEBIT CIRCUIT 2 DIRECTION VERS STABS
524	SELECTION RENTREE POUTRES OU PATINS DE STABILISATEURS
526	COMMUTATION DEBIT CIRCUIT 1 DIRECTION VERS STABS/DIR.AR./SUSP
529	SUPPRESSION LIMIT.PRESSION PATINS-RENTREE POUTRES ET DIR.AR.
533	SELECTION SORTIE POUTRES OU PATINS DE STABILISATEURS

CONTENT OF FOLIO 11 - SCHEMA CR104953B - ATT990 - 14-NOV-1994	
REP	ELECTRIC FUNCTIONS NAME
503	CARRIER/OUTRIGGERS CONTROL BOX PILOTING RELAY
505	CARRIER/OUTRIGGERS CONTROL BOX "ON SERVICE" INDICATOR
520	SWITCH FLOW CIRCUIT 2 TO OUTRIGGERS
524	BEAMS OR OUTRIGGERS SELECTOR SWITCH FOR IN MOTION
526	FLOW SWITCH CIRCUIT 1 TO OUTRIGGER/REAR STEERING/SUSPENSION
529	PRESSURE LIMITATION FOR PADS-BEAMS OUT MOTION AND REAR STEERI
533	BEAMS OR OUTRIGGERS SELECTOR SWITCH FOR OUT MOTION

	R1/BR21	R2/BR21
SELECTION PATINS	B1-B2	B1-B2
SELECTION POUTRES	A1-A2	A1-A2

	R2/BR9	R3/BR9	R4/BR9	R1/BR11	R2/BR11	R3/BR11	R4/BR11	E91	E21	E23	E213	E215	E215	E217	E200	E201	E204	E206
DEMI-SORTIE POUTRE AVG	●		●	●					●						●		●	
SORTIE TOTALE POUTRE AVG	●		●	●				●	●						●		●	
RENTREE POUTRE AVG	●	●		●					●							●	●	●
RENTREE POUTRE AVG	●	●		●				●	●							●	●	●
DEMI-SORTIE POUTRE AVD	●		●		●						●				●		●	
SORTIE TOTALE POUTRE AVD	●		●		●					●	●				●		●	
RENTREE POUTRE AVD	●	●			●						●					●	●	●
RENTREE POUTRE AVD	●	●			●					●	●					●	●	●
DEMI-SORTIE POUTRE ARG	●		●			●						●			●		●	
SORTIE TOTALE POUTRE ARG	●		●			●						●	●		●		●	
RENTREE POUTRE ARG	●	●				●							●			●	●	●
RENTREE POUTRE ARG	●	●				●						●	●			●	●	●
DEMI-SORTIE POUTRE ARD	●		●				●							●	●		●	
SORTIE TOTALE POUTRE ARD	●		●				●							●	●		●	
RENTREE POUTRE ARD	●	●					●							●		●	●	●
RENTREE POUTRE ARD	●	●					●							●	●	●	●	●

	R2/BR9	R3/BR9	R4/BR9	R1/BR11	R2/BR11	R3/BR11	R4/BR11	E90	E92	E94	E96	E200	E201	E203	E204	E206
SORTIE PATIN AVG	●		●	●				●				●		●	●	●
RENTREE PATIN AVG	●	●		●				●					●		●	●
SORTIE PATIN AVD	●		●		●				●			●		●	●	●
RENTREE PATIN AVD	●	●			●				●				●		●	●
SORTIE PATIN ARG	●		●			●				●		●		●	●	●
RENTREE PATIN ARG	●	●				●				●			●		●	●
SORTIE PATIN ARD	●		●				●				●	●		●	●	●
RENTREE PATIN ARD	●	●					●				●		●		●	●

T6 35A

T5 10A

9422

MANIPULATEUR GAUCHE

MANIPULATEUR DROIT

9422 F4

T14 5A

9722

9715 F3

9423 F4

9522

9522 F3

9522 F4

F1 (R29/E)

F1 610

ENTREES

SORTIES

7200	ROUGE +15V	ALIM POTENTIOMETRE	
7202	NOIR+BLANC	ALIM POTENTIOMETRE	
7204	BLEU -15V	ALIM POTENTIOMETRE	
7208	ROSE	ORIENTATION	
7214	VERT	RELEVAGE	
7210	JAUNE	BOOST	
7300	GRIS/ROSE	ORIENT DROIT	
7301	ROUGE/BLEU	ORIENT GAUCHE	
7310	JAUNE	RELEVAGE DESCENTE	
7311	MARRON/VERT	RELEVAGE MONTEE	
7218	JAUNE/MARRON	BOOST	
7220	ROUGE	AVERTISSEUR SONORE	
7209	ROUGE +15V	ALIM POTENTIOMETRE	
7202	NOIR+BLANC	ALIM POTENTIOMETRE	
7204	BLEU -15V	ALIM POTENTIOMETRE	
7226	ROSE	TELESCOPAGE	
7212	VERT	LEVAGE 1	
7216	JAUNE	BOOST	
7321	GRIS/ROSE	TELES SORTIE	
7329	ROUGE/BLEU	TELES RENTREE	
7330	JAUNE	LEVAGE 1 DESCENTE	
7331	MARRON/VERT	LEVAGE 1 MONTEE	
7222	JAUNE/MARRON	BOOST	
7224	ROUGE	AVERTISSEUR SONORE	
3465	CONTACT SIEGE ET ACCOUDOIR		
7400	SHUNT SECURITES		
7402	SELECTEUR TREUIL 2		
7404	SELECTEUR TREUIL 1+2		
7410	SELECTEUR TREUIL 1		
7412	TELES ELEMENT 4+5		
7414	TELES ELEMENT 3		
7416	TELES ELEMENT 2		
1565	(TELES AUTOMATIQUE)		
187	ORIENT LIBRE		
	ZONE ARRIERE		

R1	LEVAGE 1 MONTEE
R2	LEVAGE 1 DESCENTE
R30	DEFREINAGE LEVAGE1
R6	LEVAGE 2 MONTEE
R7	LEVAGE 2 DESCENTE
R17	DEFREINAGE LEVAGE2
R10	TELES SORTIE
R9	TELES RENTRE
R4	RELEVAGE MONTE
R12	RELEVAGE DESCENTE
R11	RELAIS CEC + FIN DE COURSE
R31	VALIDITION RELEVAGE DESCENTE
	ORIENT GAUCHE
	ORIENT DROIT
	ORIENT
	RELEVAGE DESCENTE
	POMPE 1
	POMPE 2
	ORIENT LIBRE
	ACCELERATEUR
	TREUIL 1 BOOST
	TREUIL 2 BOOST

02/96	RAULT	COMMANDE MANIPULATEUR	9009		D	
09/95	RAULT	MISE A JOUR	8864		C	
01/95	SOWA	MISE A JOUR PINCE CP	8601		B	
DATE	NOM/NAME	ETAIT AVANT MODIFICATION /AS BEFORE MODIFICATION	MODIF	REP	ING	MC

C.D.G. :
POIDS CALC/WEIGHT: KG
PIECE BRUTE :
MATIERE : MATERIAL:
VERIFIE LE: 30/09/94 PAR: RAULT
DESSINE LE: 30/09/94 PAR: SOWA
FEUIL/SHEET 2/4 ECH/SCALE

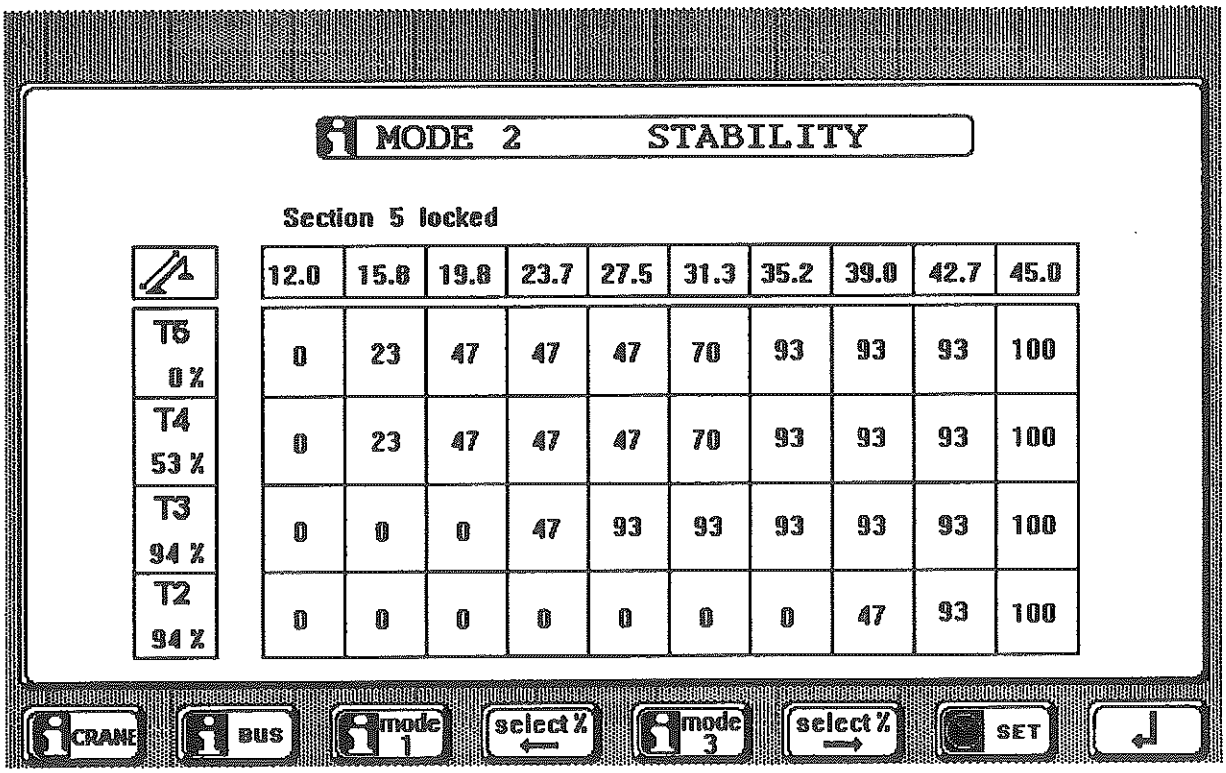
ZI LA SAULE 71304 MONTCEAU LES MINES

ELEC TOURELLE ATT1190

CI: CR-106112D

EASY
NEW GENERATION ELECTRONIC LOAD INDICATOR

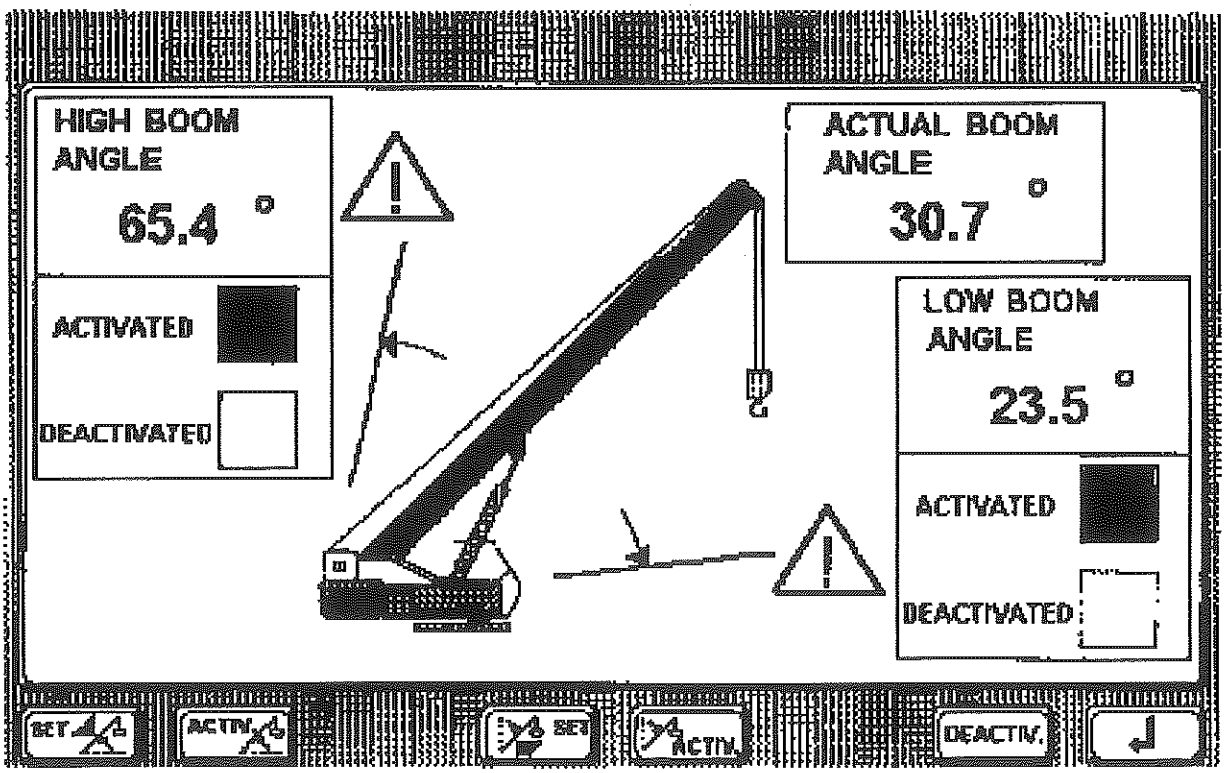
Mode 2 information



This screen indicates Mode 2 telescoping sequences and allows them to be compared to real ones.

A selection key allows one of the Mode 2 sequences to be chosen which is then displayed in the main screen in order to configure the boom to a predetermined length.

Derricking angle limitation

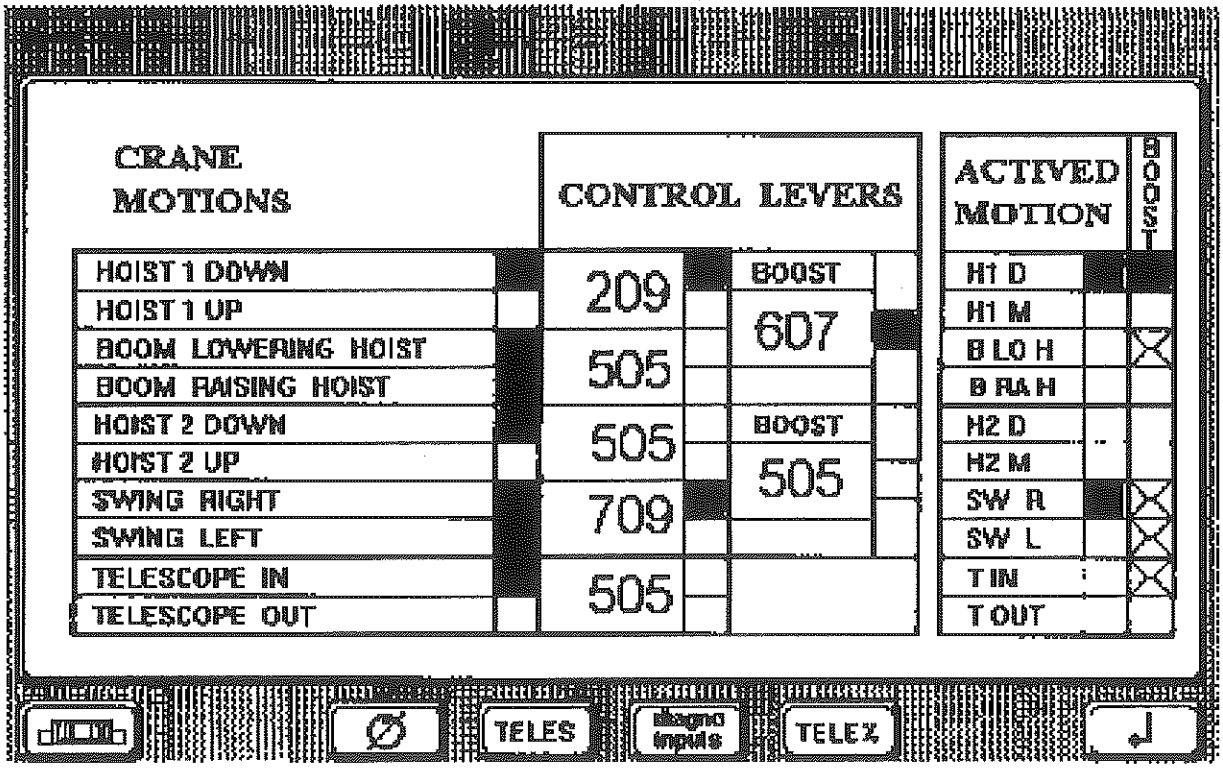


Derricking angle limit programming is made by auto–instruction : the operator brings the boom to the desired minimum angle, which is then transfered into the minimum angle parameter zone by pressing the "SET" key and validated by the "VALID" key.

The programming procedure is exactly the same for the maximum angle limit.

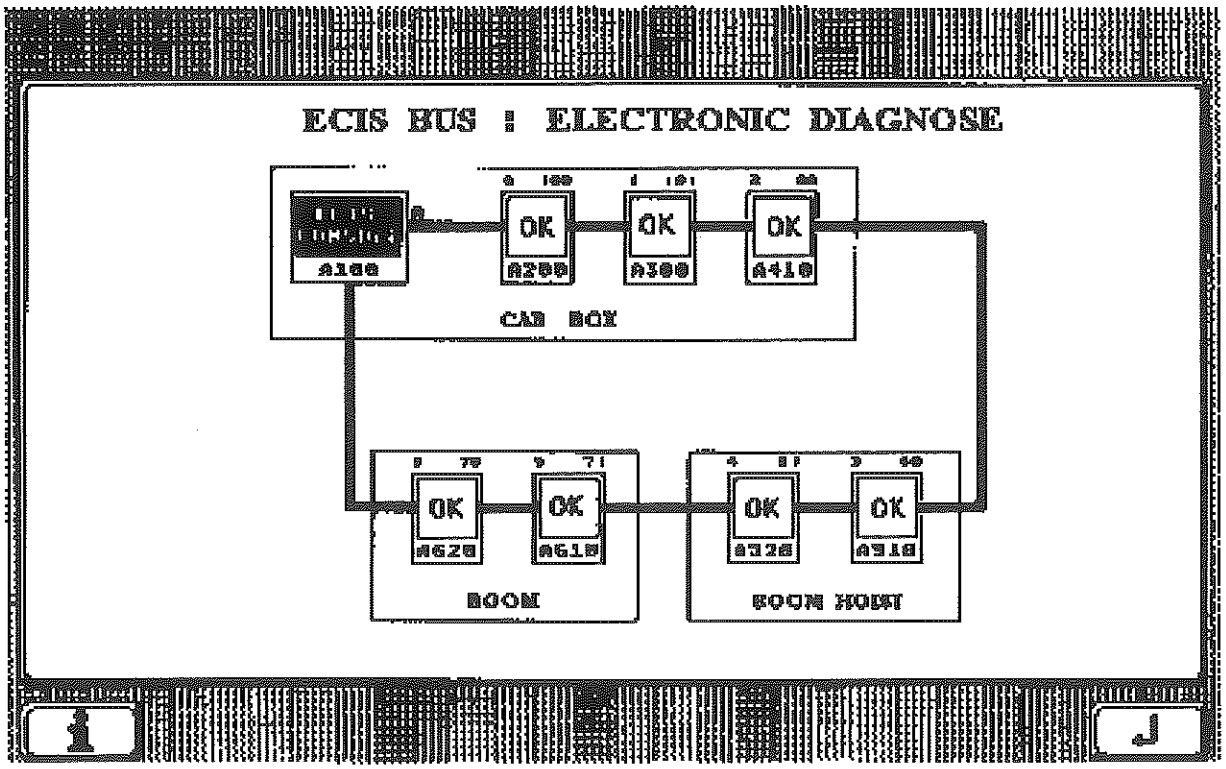
Function programming is cancelled by pressing the "ANNUL" key.

Joystick diagnostics



This screen gives diagnostic information concerning joystick parameters (analogic inputs), along with the state of directional contacts (digital input validation contacts).

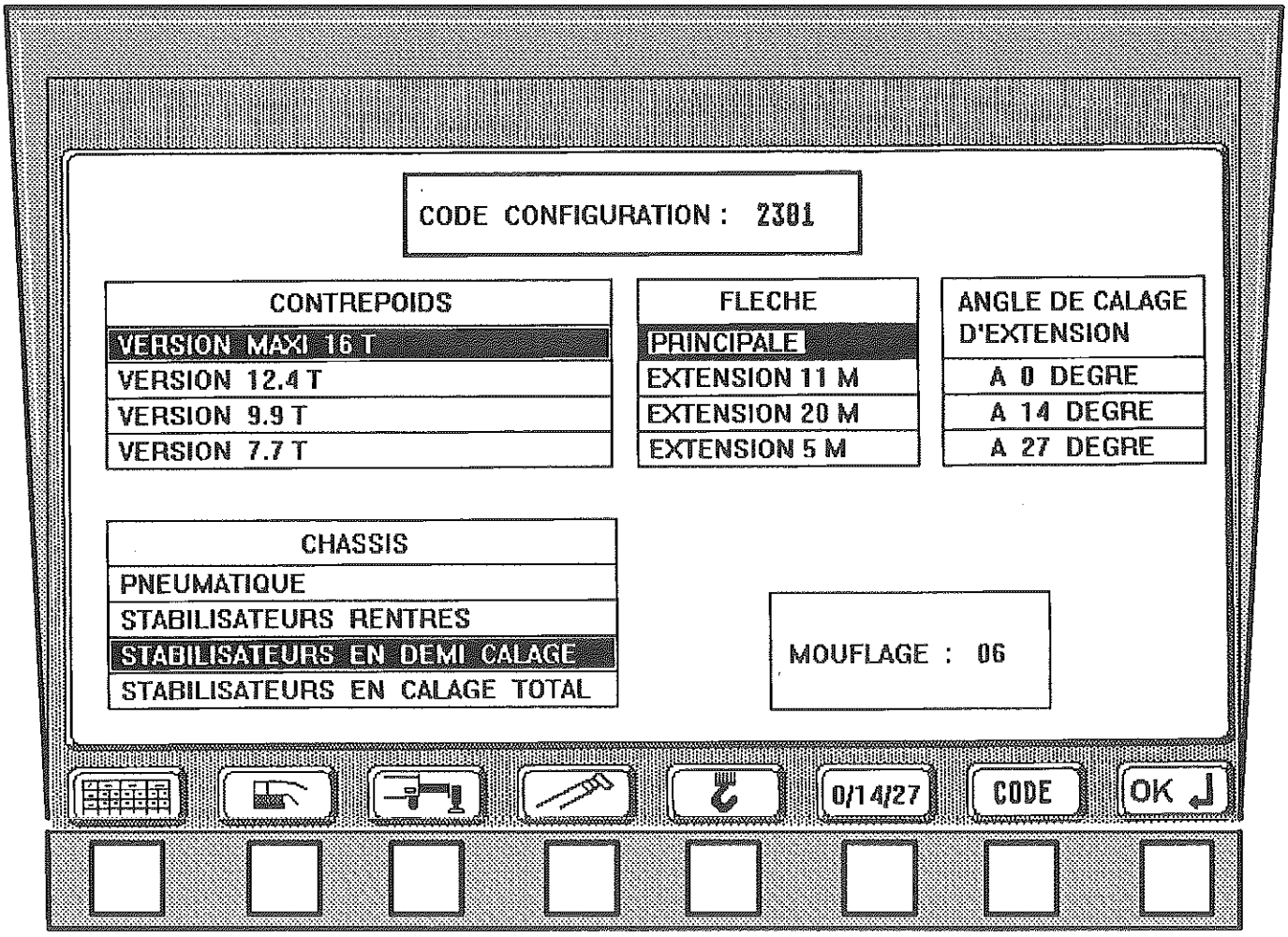
Electronic diagnostics

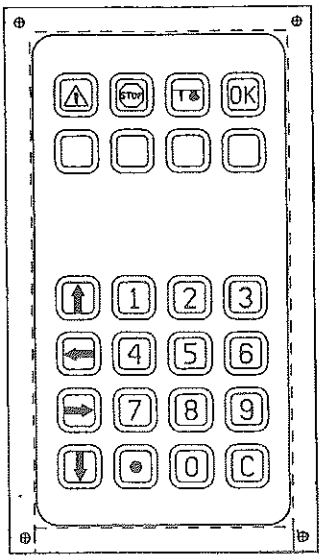


This screen displays the state of the electronic boards in the electrical cabinet (auto–diagnostics).

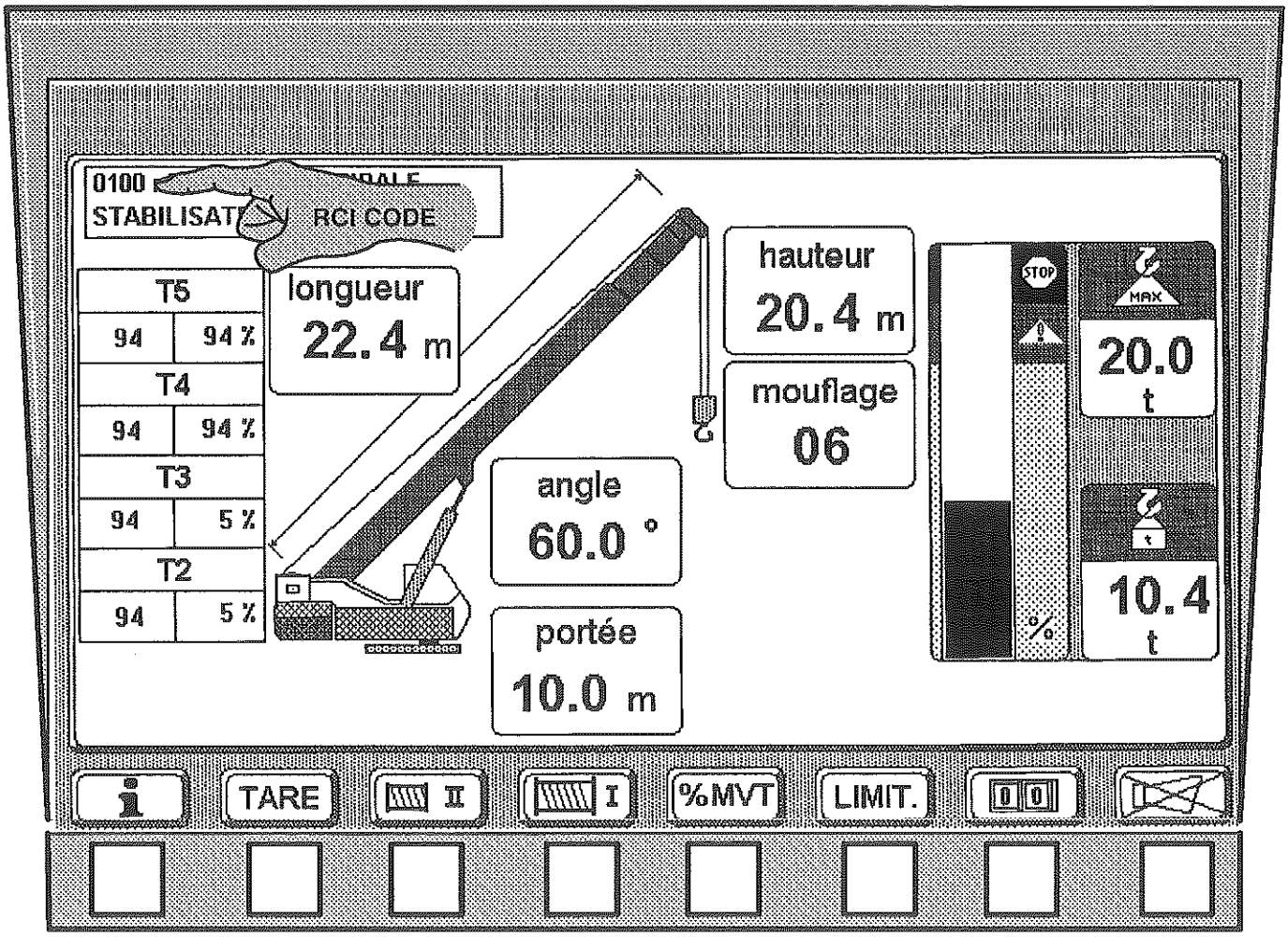
Programming the RCI configuration

The RCI unit displays the CONFIGURATION screen as soon as power has been applied by means of the ignition switch in the upper cab and after executed the autodiagnostic tests





Reading the information

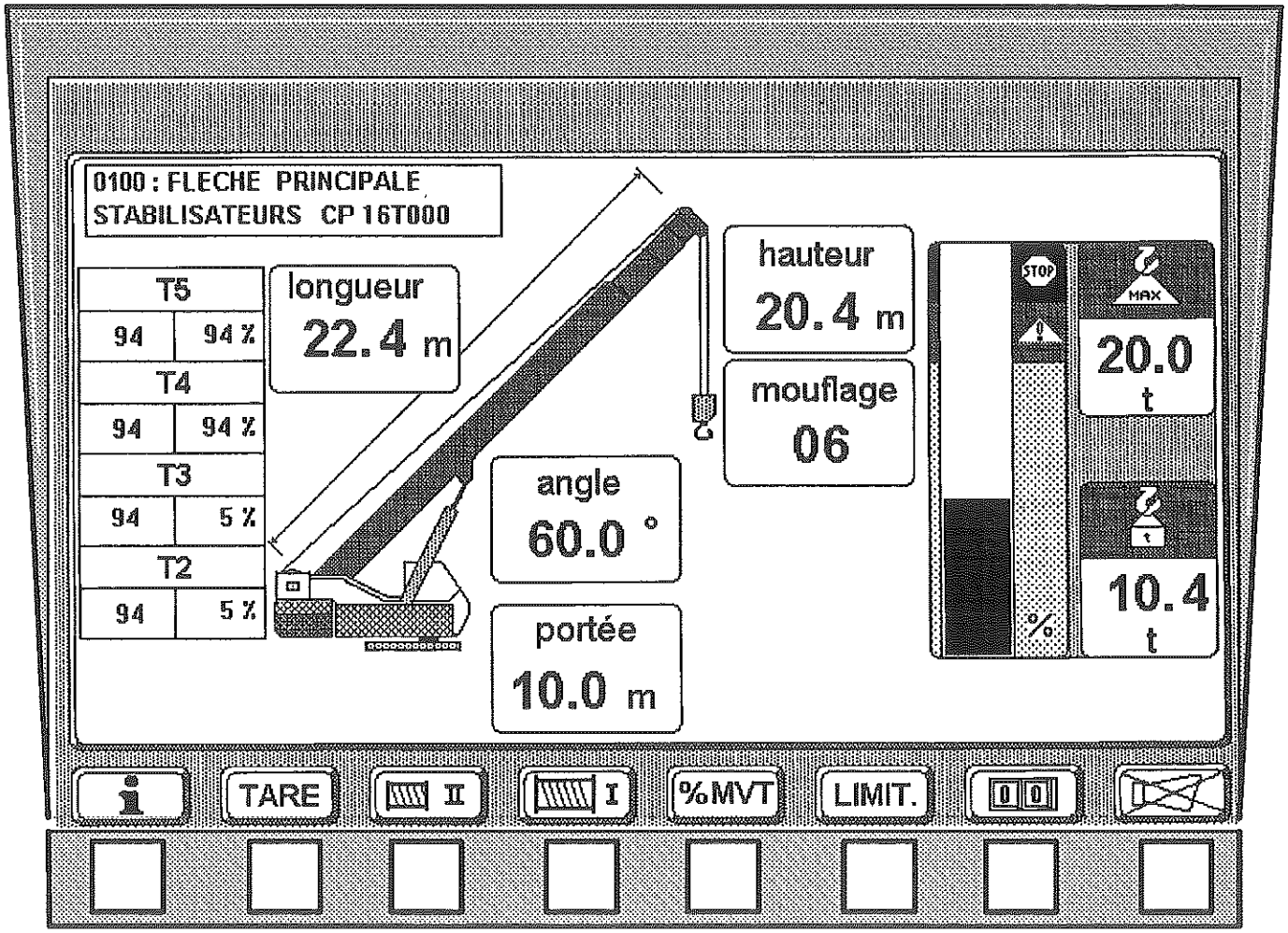


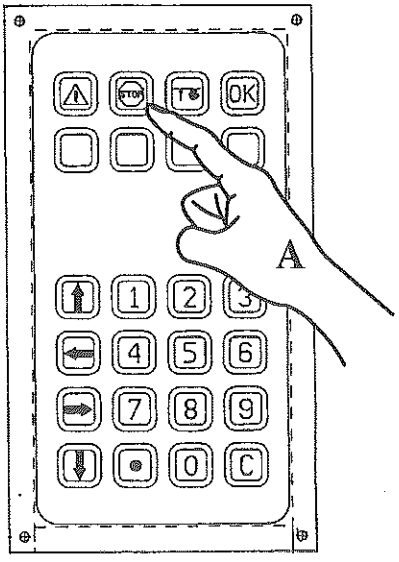
*The **RCI CODE** corresponds to the current selection and is permanently displayed in the top right hand corner of the screen.* Clear text indicates the machine's configuration.

BOOM : These digits are part of configuration code given to the RCI.

COUNTERWEIGHT : This digit is part of the configuration code given to the RCI

AUTOMATIC SELECTION : This digit is given by the RCI, its value can be 0,1,2,3 or 4.
Automatic selection governs the **telescoping mode**.
The **TELESCOPING MODE** depends on the telescoped percentage of sections T2, T3, T4 and T5, and wether section T5 is locked or unlocked.





A – LOAD MOMENT ALARM

This red warning lamp informs the operator that a rated load condition has been reached. It lights up when the load being handled has reached 100% of the crane's capacity.

The audible alarm is activated at the same time.

The following crane functions are inhibited :

Load raising – Boom extension – Derricking up and down