



OPERATING INSTRUCTIONS

ESET26P SEMI-ELECTRIC

VERSION
MODEL
APPLICABLE PRODUCTS

FEBRUARY 2021
ESET26P SEMI-ELECTRIC LITHIUM POWERED PALLET TRUCK
ESET26B, ESET26P

NOTE: Please read and understand the safety instructions prior to use. Please save for future reference.

IT ISTRUZIONI ORIGINALI - PREMESA (2.1)

Questo manuale contiene tutte le istruzioni d'uso della macchina e la conoscenza necessaria per un impiego corretto della stessa. Nel ringraziarLa per l'acquisto del nostro carrello vorremmo porre alla sua attenzione alcuni aspetti di questo manuale: - il presente libretto fornisce utili indicazioni per il corretto funzionamento e la manutenzione del carrello a cui fa riferimento; è quindi indispensabile prestare la massima attenzione a tutti i paragrafi che illustrano il modo più semplice e sicuro per operare con il carrello. - Il presente libretto dovrà essere considerato parte integrante del carrello e dovrà esservi accluso all'atto di vendita. - Questa pubblicazione né parte di essa, potrà essere riprodotta senza autorizzazione scritta da parte della casa costruttrice. - Tutte le informazioni qui riportate sono basate sui dati disponibili al momento della stampa; la casa costruttrice si riserva il diritto di effettuare modifiche ai propri prodotti in qualsiasi momento, senza preavviso e senza incorrere in alcuna sanzione. Si consiglia pertanto di verificare sempre eventuali aggiornamenti.

FR TRADUCTION DE LA NOTICE ORIGINALE - A VANT-PROPOS (2.1)

Ce manuel contient toutes les instructions d'utilisation de la machine et la connaissance nécessaire pour un emploi correct de celle-ci. En vous remerciant pour l'acquisition de notre chariot nous voudrions soumettre à votre attention certains aspects de ce manuel: -ce livret fournit des indications utiles pour un fonctionnement correct et pour l'entretien du chariot élévateur auquel il se réfère; il est donc indispensable de prêter un maximum d'attention à tous les paragraphes qui illustrent la façon la plus simple et la plus sûre pour opérer avec le chariot. -ce livret doit être considéré partie intégrante du chariot et devra être inclus à l'acte de vente. -cette publication, ni aucune partie d'elle-même, ne pourra être reproduite sans autorisation écrite de la part de la maison de construction. -toutes les informations reportées ici sont basées sur des données disponibles au moment de l'impression; la maison de construction se réserve le droit d'effectuer des modifications à ses propres produits à n'importe quel moment, sans préavis et sans encourir aucune sanction. Il est donc conseillé de toujours vérifier d'éventuelles mises à jour.

EN TRANSLATION OF THE ORIGINAL INSTRUCTIONS - INTRODUCTION (2.1)

This manual contains all the instructions for the use of the machine and the necessary knowledge for its correct use. While thanking you for buying our truck we would like to draw your attention to some important aspects of this manual: -this booklet gives useful indications for the correct use and maintenance of the fork lift truck to which it refers; it is, therefore, essential to pay great attention to all the paragraphs that illustrate the simplest and safest way of using the truck; -this booklet must be considered an integral part of the truck and should be included at the moment of sale. -no part of this publication may be reproduced without the written authorisation of the manufacturer. -all the information contained in this booklet is based on the data available at the time of printing; the manufacturer reserves the right to modify its products at any time, without notice and without liability. It is therefore advisable to regularly check for any changes.

DE ÜBERSETZUNG DER ORIGINALBETRIEBSANLEITUNG - VORWORT (2.1)

Dieses anleitung enthält alle Gebrauchsanweisungen für das Gerät und die Hinweise für seinen einwandfreien Betrieb. Wir danken Ihnen für den Erwerb eines unserer Hubwagen und möchten Sie auf einige Punkte dieses Handbuches hinweisen: - das vorliegende Handbuch liefert nützliche Hinweise für den einwandfreien Betrieb und die Wartung des jeweiligen Hubwagens; es ist daher unerlässlich, all den Paragraphen die größte Aufmerksamkeit zu schenken, die die einfachste und sicherste Art beschreiben, um mit dem Hubwagen zu arbeiten; - das vorliegende Handbuch muß als wesentlicher Bestandteil des Gerätes angesehen und daher dem Kaufvertrag beigelegt werden; - weder diese Veröffentlichung noch Teile von ihr dürfen ohne die schriftliche Genehmigung des Herstellers nachgedruckt werden; - alle hier wiedergegebenen Informationen beziehen sich auf die beim Druck verfügbaren Daten; der Hersteller behält sich das Recht vor, ohne Vorankündigung jederzeit Änderungen an seinen eigenen Produkten vorzunehmen, wobei er sich keinerlei Strafen zuzieht. Wir empfehlen daher immer, eventuelle Neuerungen zu beachten.

ES TRADUCCION DEL MANUAL ORIGINAL - PREMISA (2.1)

Este manual contiene todas las instrucciones para la utilización de la máquina, así como las condiciones necesarias para un empleo correcto de la misma. En el agradecerles la compra de nuestra carretilla, deseamos someter a su atención algunos aspectos de este manual: - el presente manual proporciona indicaciones útiles para el correcto funcionamiento y para la manutención de la carretilla elevadora a la cual se refiere; por lo tanto, es indispensable prestar la máxima atención a todos los párrafos que ilustran la manera más sencilla y segura para trabajar con la carretilla. - el presente manual debe considerarse parte integrante de la carretilla y deberá estar incluido en el acto de venta. - ni ésta publicación ni parte de ella podrá ser reproducida sin autorización escrita por parte de la Casa Constructora. - todas las informaciones aquí contenidas, están basadas sobre los datos disponibles al momento de la impresión; la Casa Constructora se reserva el derecho de efectuar modificaciones a sus propios productos en cualquier momento, sin previo aviso y sin incurrir en ninguna sanción. Por lo tanto, les aconsejamos comprobar siempre eventuales actualizaciones.

PT TRADUÇÃO DO MANUAL ORIGINAL - INTRODUÇÃO (2.1)

Este manual contém todas as informações para o uso do aparelho e o conhecimento necessário para um perfeito funcionamento. Agradecendo pela compra do nosso aparelho queremos esclarecer alguns aspectos deste manual: - Este manual contém indicações para um correto funcionamento e manutenção da carretilha; é indispensável prestar muita atenção à todos os parágrafos que ilustram em modo simples e seguro a manipulação da carretilha. - No ato da venda observar se o manual foi entregue junto com a carretilha, pois deve ser considerado como parte integral da mesma. - Esta publicação não pode ser reproduzida sem autorização escrita da casa de construção. - Todas as informações são baseadas nos dados disponíveis no momento da estampa; a casa de construção tem o direito de modificar os próprios produtos em qualquer momento, sem pré-aviso e sem nenhum tipo de multa. Aconselhamos de verificar eventuais atualizações.

NL VERTALING VAN DE OORSPRONKELIJKE GEBRUIKSAANWIJZING - VOORWOORD (2.1)

Dit boekje bevat alle gebruiksaanwijzingen van de machine en de nodige kennis voor een correct gebruik van de pallettruck. Wij bedanken u voor de aankoop van onze pallettruck en tevens vestigen wij graag uw aandacht op enige aspecten van deze handleiding: - dit boekje verschaft nuttige aanwijzingen voor een correct gebruik en onderhoud van de betreffende pallettruck; het is daarom noodzakelijk alle paragrafen die betrekking hebben op de meest eenvoudige en veilige manier van het omgaan met de pallettruck goed te lezen. - dit boekje dient beschouwd te worden als een wezenlijk onderdeel van de machine en moet op het moment van de verkoop bijgeleverd worden. - deze publikatie, noch gedeeltes hieruit, mogen niet vermenigvuldigd worden zonder schriftelijke toestemming van het constructiebedrijf. - alle informatie in deze handleiding is gebaseerd op de beschikbare gegevens op het moment van het ter druk gaan; het constructiebedrijf houdt zich het recht voor om, op elk moment, veranderingen aan de producten toe te brengen, zonder voorafgaand te berichten en zonder sancties op te lopen. Het is daarom aan te raden altijd de meest recente uitgave te raadplegen.

DA OVERSÆTTELSE AF DEN ORIGINALE BRUGSANVISNING - INTRODUKTION (2.1)

Denne folder indeholder alle vejledningerne for brug af maskinen samt den nødvendige viden for korrekt brug. Med tak for købet af vores truck gør vi Dem opmærksom på nogle vigtige aspekter af denne folder. Denne folder giver nyttige vejledninger for korrekt brug og vedligeholdelse af gaffel-trucken den beskriver; det er derfor yderst vigtigt at læse alle sektionerne grundigt da disse forklarer den bedste og mest sikre brug af trucken. -denne folder må anses for en integreret del af trucken og skal indkluderes i salget af den. -ingen del af denne publikation må reproducere uden skreven autorisation fra den konstruerende virksomhed. -alt information i denne folder er baseret på data tilgængelig ved skrivende stund - den konstruerende virksomhed reserverer rettigheder til at modificere dets produkter til enhver tid uden varsel og uden sanktion. Det er derfor tilrådeligt at holde sig up-til-date.

NO OVERSETTELSE AV OPPRINNELIGE INSTRUKSJONENE - PREMISSER (2.1)

Denne manualen inneholder alle veiledninger for bruk av maskinen samt den nødvendige viten for korrekt bruk. Med takk for kjøpet av våres maskin gjør vi Dem oppmerksom på noen viktige aspekter i denne manualen. Denne manualen gir nyttige veiledninger for korrekt bruk og vedlikeholdelse av gaffel-trucken den beskriver; det er derfor veldig viktig å lese alle seksjonene grundigt siden disse forklarer den beste og mest sikre bruk av trucken. -denne manual må anses for en integreret del av trucken og skal indkluderes i salget av den. -ingen del av denne publikasjon må reproduces uten skreven autorisasjon fra den konstruerende virksomhet. -all informasjon i denne manualen er baseret på data tilgjengelig ved skrivende stund - den konstruerende virksomhet reserverer rettigheter til å modifisere dets produkter til enhver tid uten varsel og uten sanksjon. Det er derfor anbefalt å holde seg up-til-date.

SV ÖVERSÄTTNING AV BRUKSANVISNING I ORIGINAL - INTRODUKTION (2.1)

Detta häfte innehåller alla instruktioner för användning av maskinen samt nödvändig information om korrekt hantering. Vi vill tacka Er för att ha valt vår truck och samtidigt göra Er uppmärksamma på några viktiga aspekter rörande denna manual: - Detta häfte innehåller viktiga anvisningar om korrekt användning och underhåll av den truck som häftet behandlar. Det är därför mycket viktigt att noggrant uppmärksamma alla paragrafer eftersom de förklarar det enklaste och säkraste sättet att handskas med trucken. - Detta häfte bör betraktas som en del av trucken och bör därför medfölja vid försäljning. - Ingen del av denna publikation får kopieras utan tillverkarens skriftliga medgivande. - All information i detta häfte baseras på data tillgänglig vid tryckningstillfället. Tillverkaren reserverar sig rättigheten att genomföra modifierationer på sina produkter vid vilken tidpunkt som helst utan förvarning och utan skyldigheter. Det är därför rekommenderat att regelbundet kontrollera om eventuella förändringar genomförs.

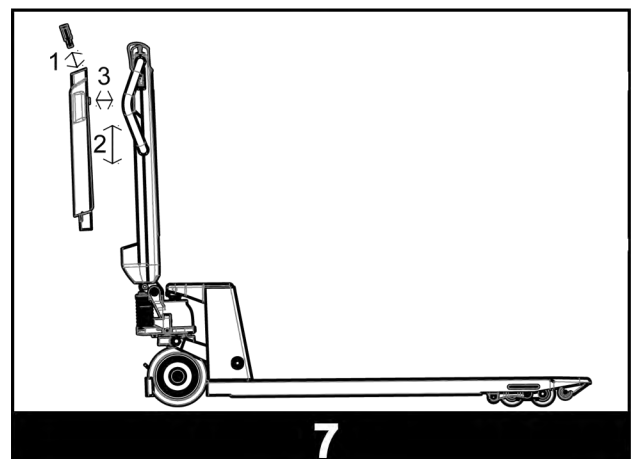
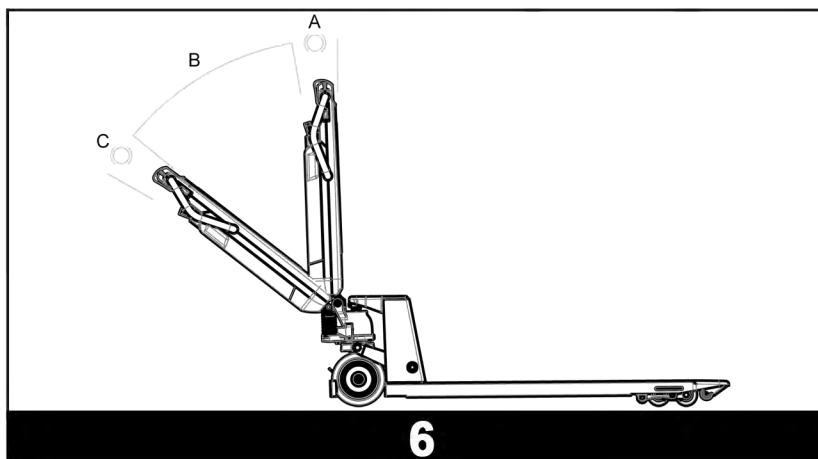
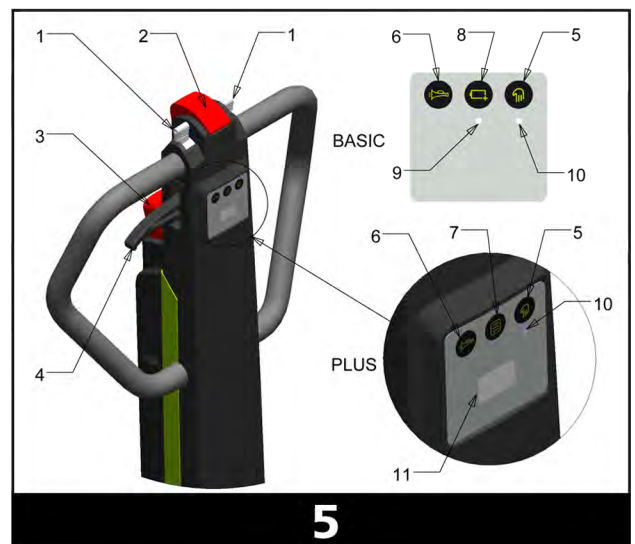
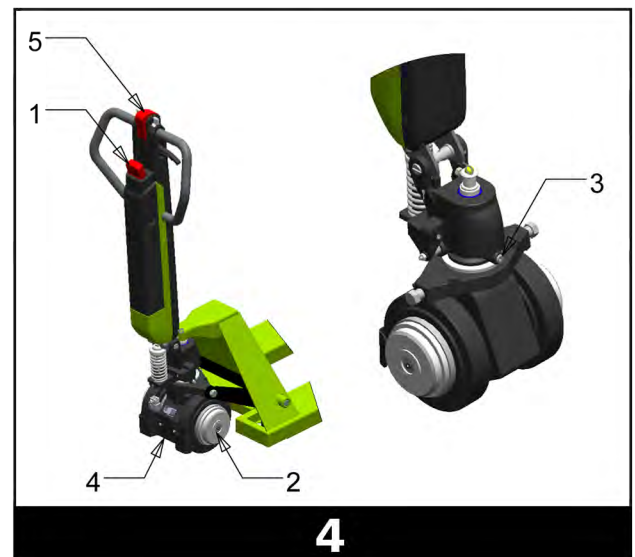
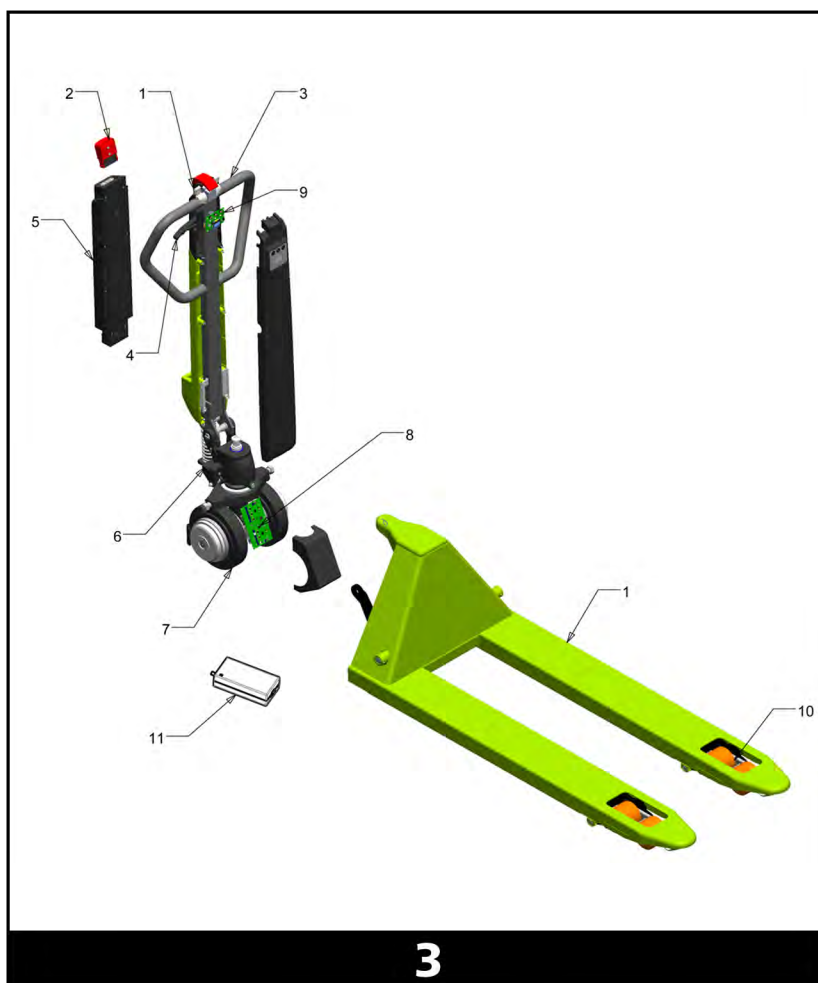
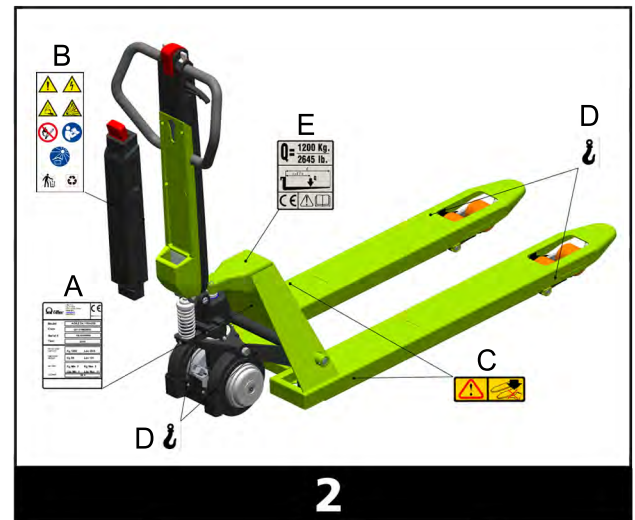
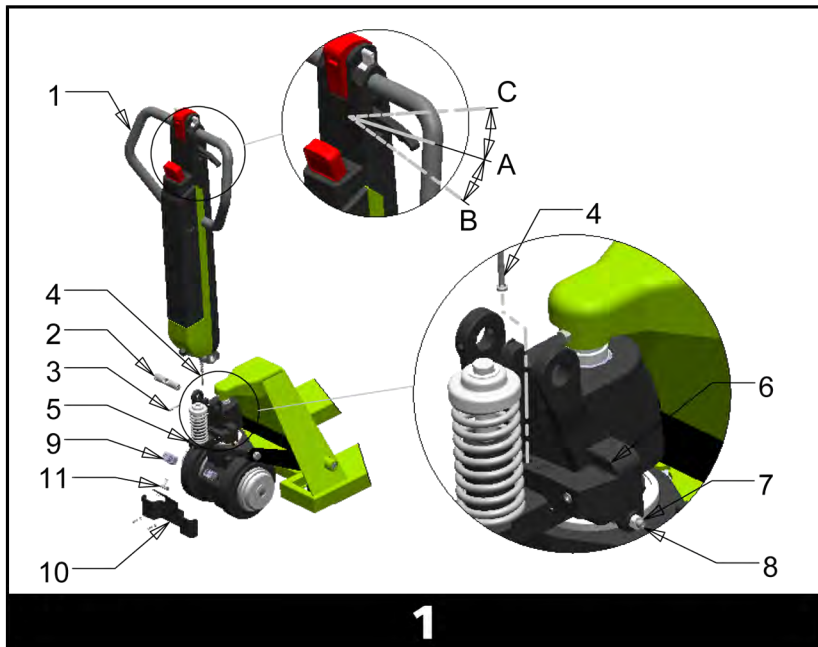
FI ALKUPERÄISTEN OHJEIDEN KÄÄNNÖS - JOHDANTO (2.1)

Tämä käsikirja sisältää koneen kaikki käyttöohjeet sekä tarpeellisen tiedon sen asianmukaiseen käyttöön. Samalla kun kiitämme Teitä trukkimme ostamisesta haluaisimme kiinnittää huomionne tiettyihin tämän käsikirjan näkökohtiin: -Tämä käsikirja antaa tarpeelliset ohjeet trukin oikeaan käyttöön ja huoltoon; tämän takia on olennaista kiinnittää erityistä huomiota kaikkiin kuvioihin, joista käy ilmi yksinkertaisin ja tavallisin tapa käyttää trukkia. -Tämä käsikirja pit olennaisena osana trukkia ja täten sisältyä myyntisopimukseen. -Mit n osaa tästä julkaisusta ei saa uudelleentuottaa ilman valmistajan kirjallista valtuutusta. -Kaikki tämän käsikirjan tieto perustuu painohetkellä käsillä olleeseen tietoon; valmistaja varaa itselleen oikeuden muuttaa tuotteitaan milloin tahansa ilman ennakkoilmoitusta ja ilman vastuuta. Tämän takia on suositeltavaa s ilisestii tarkistaa mandolliset muutokset.

EL Μετάφραση του πρωτοτύπου των οδηγιών χρήσης - ΠΡΟΛΟΓΟΣ (2.1)

Το παρόν εγχειρίδιο περιέχει όλες τις οδηγίες χρήσης του παλλετοφόρου και τις απαιτούμενες γνώσεις για τη σωστή του χρήση. Ευχαριστώντας σας για την αγορά του παλλετοφόρου μας θα θέλαμε να επιστήσουμε την προσοχή σας σε μερικά σημεία αντον του εγχειριδιών: -Το παρόν εγχειρίδιο παρέχει χρήσιμες υποδείξεις για τη σωστή λειτουργία και χρήση του παλλετοφόρου στο οποία αναφέρεται.Είναι λοιπόν, απαραίτητο να διαβάσετε με πρσοχή όλες τις παραφαρον που υποδεικνώνον τον πιο εύκολο και εύουρο τρόπο για την χρήση του παλλετοφόρου. -Το παρόν εγχειρίδιο θα πρέπει να θεωρηθεί αναπόσπαστο μέρος του παλλετοφόρου και θα πρέπει να σας θεωρηθεί τη στιγμή της πώλησης τον -Απαγορεύεται η αναδημοσίευση ολική η μερική αντον τον εντύπου χωρία την γραπτή εγκρίση τον κατα σκεναωικον οικον. -Όλε σ οι πληροφορίες σ που παρεχονται εδω βασίζονται σε δεδομένα διαθεσιμα τη στιγμή της εκτυπωσησ. Ο κατασκεναωικος οικος διατηρεί το δικαωια αλλαγών στα προϊόνεα τον ανα πασα στιγμή , χωρία πρσειδοποίηση και χωρία να διατρεχει καμια κύρωση. Θ α πρέπει ωσεοο να ενημερνεσεε για πιθανεα καινωτομεα.





S. O. C. 0/5
100.0 %

0



Timers: 1/5
Tp=0.00h
Tt=0.00h

1



Odometer 2/5
Dp=0.00km
Dt=0.00km

2



SpeedSet 3/5
100.0 %
0.0 km/h

3



CODE= 0 5/5
Batt: 40.0 V
SOC=100.0 %
T:22 - 22

5



Thr: 0.00 4/5
Tor: 0.00
S: 0 - - 0
Ang: 0.00 deg
FSM=3 BMS
Neutral B=0

4



8

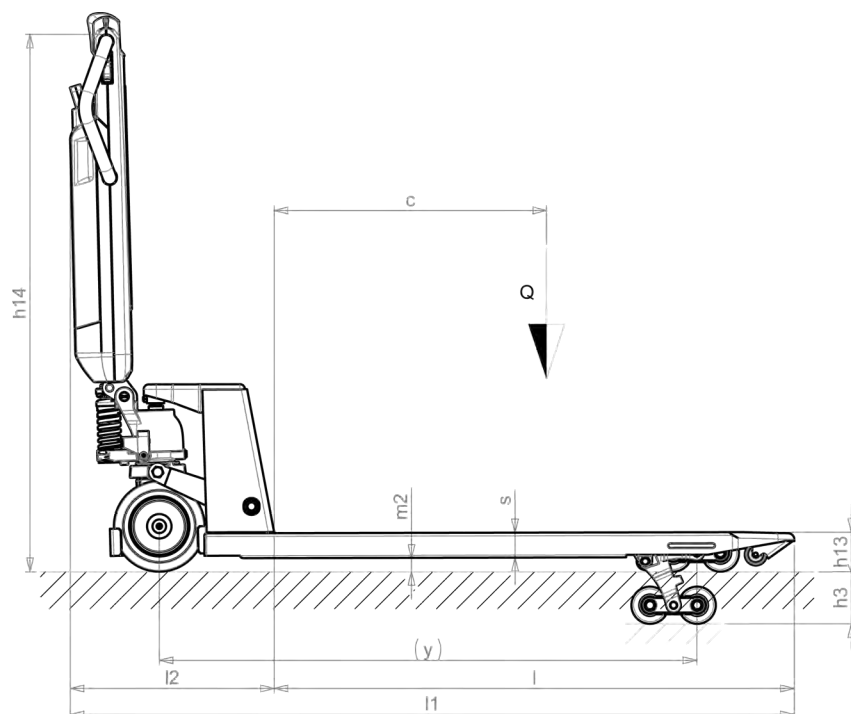
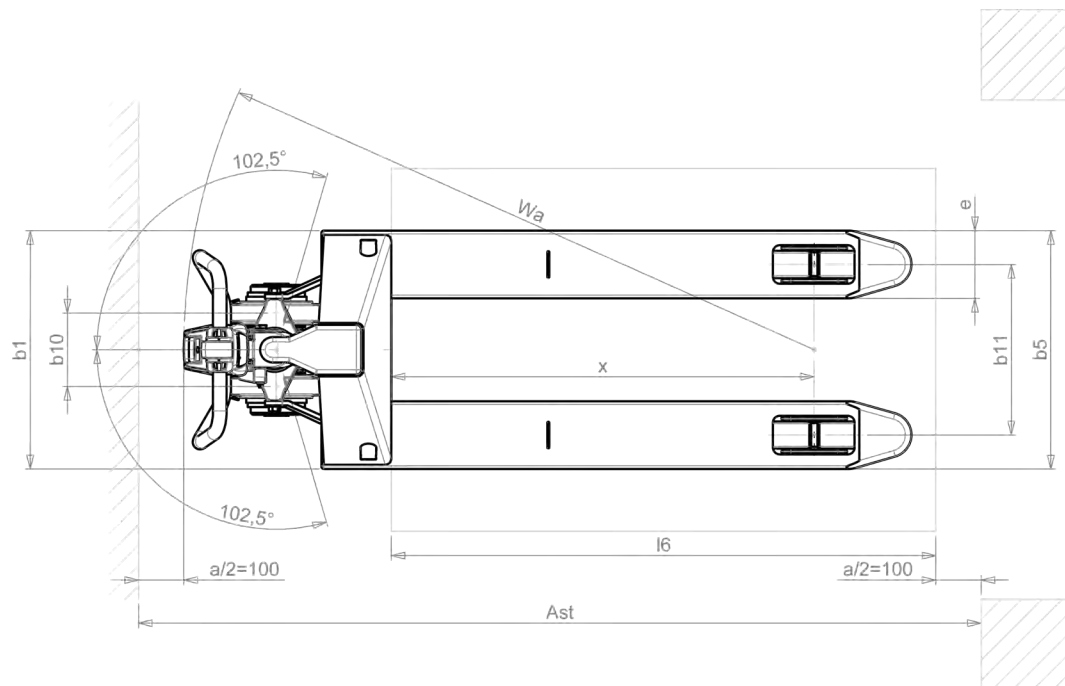
SETUP:
0.0--0.0-10.0
57.0- 0.0- 7.0
---> -22.0
---> 21.0 Driver
---> OK

1

SETUP:
0.0--0.7-10.0
57.0- 8.0- 7.0
---> -22.0
---> 21.0 Driver
---> OK

2

9



SUMMARY (1.11)

TECHNICAL FEATURES.....	Page 22	INSTRUCTIONS FOR USE.....	Page 25
DECLARATION OF VIBRATORY EMISSION	Page 22	OPERATING PROCEDURES	Page 27
GENERAL CONDITIONS.....	Page 22	BATTERY.....	Page 29
RISKS.....	Page 23	MAINTENANCE.....	Page 30
TRANSPORTATION AND COMMISSIONING OF THE FORKLIFT	Page 23	TROUBLESHOOTING.....	Page 31
DESCRIPTION OF THE FORKLIFT	Page 24	DISPOSAL.....	Page 31

TECHNICAL FEATURES

DESCRIPTION	1.1	MANUFACTURER			PR INDUSTRIAL	PR INDUSTRIAL
	1.2	MODEL			ESET26P-B BASIC	ESET26P-P PLUS
	1.3	DRIVE			ELECTRIC	ELECTRIC
	1.4	OPERATOR TYPE			PEDESTRIAN	PEDESTRIAN
	1.5	LOAD CAPACITY	Q	kg	1200	1200
	1.6	LOAD CENTRE DISTANCE	c	mm	600	600
	1.8	LOAD DISTANCE, CENTRE OF DRIVE AXLE TO FORK	x	mm	932	932
	1.9	WHEEL BASE	y	mm	1192	1192
	2.1	SERVICE WEIGHT		kg	86-88	86-88
WEIGHT	2.2	AXLE LOAD LADED, FRONT/REAR		kg	395/889-891	395/889-891
	2.3	AXLE LOAD UNLADEN, FRONT/REAR		kg	59/25-27	59/25-27
	3.1	TYRES (FRONT/REAR)			G/P	G/P
TYRES/CHASSIS	3.2	TYRE SIZE, FRONT (Ø x width)			200x40	200x40
	3.3	TYRE SIZE, REAR (Ø x width)			82x82-60	82x82-60
	3.4	SIDE WHEELS (Ø x width)				
	3.5	WHEELS, NUMBER (x=DRIVEN) FRONT/REAR			2x/2-2x/4	2x/2-2x/4
	3.6	TREAD, FRONT	b ₁₀	mm	162	162
	3.7	TREAD, REAR (MIN/MAX**)	b ₁₁	mm	375	375
	4.4	LIFT	h ₃	mm	115	115
DIMENSIONS	4.9	HEIGHT OF TILLER IN DRIVE POSITION MIN/MAX	h ₁₄	mm	710/1185	710/1185
	4.15	HEIGHT, LOWERED	h ₁₃	mm	85	85
	4.19	OVERALL LENGTH	l ₁	mm	1600	1600
	4.20	LENGTH TO FACE OF FORKS	l ₂	mm	450	450
	4.21	OVERALL WIDTH (FRONT/REAR MIN/MAX**)	b ₁	mm	525	525
	4.22	FORK DIMENSIONS	s/e/l	mm	55/150/1150	55/150/1150
	4.25	DISTANCE BETWEEN FORK ARMS (MIN/MAX**)	b ₅	mm	525	525
	4.32	GROUND CLEARANCE, CENTRE OF WHEEL BASE	m ₂	mm	30	30
	4.34	aisle width FOR PALLETS 800x1200 LENGTHWISE	Λ ₃₁	mm	2063	2063
	4.35	TURNING RADIUS	W ₃	mm	1382	1382
PERFORMANCE DATA	5.1	TRAVEL SPEED, LADEN/UNLADEN		km/h	4,2/5,3	4,2/5,3
	5.2	LIFT SPEED, LADEN/UNLADEN**			12/12	12/12
	5.3	LOWERING SPEED, LADEN/UNLADEN		m/s	0,1/0,02	0,1/0,02
	5.8	MAX GRADEABILITY, LADEN/UNLADEN		%	5/10	5/10
	5.10	SERVICE BRAKE			ELECTRIC	ELECTRIC
ELECTRIC MOTORS	6.1	DRIVE MOTOR POWER		kW	2x0,25	2x0,25
	6.2	LIFT MOTOR POWER		kW	-	-
	6.4	BATTERY VOLTAGE, NOMINAL CAPACITY C5		V/Ah	36/10,4	36/12,8
	6.5	BATTERY WEIGHT		kg	3	3
	6.6	ENERGY CONSUMPTION ACC. TO EN 16796-1 CYCLE		kWh/h	-	-
	8.4	SOUND LEVEL AT DRIVER'S EAR		dB(A)	60	60

*G=Rubber, P=Polyurethane, N=Nylon

** 12/5 AV

MODEL			BASIC/PLUS S2-S4	BASIC/PLUS S2-S4	BASIC/PLUS S2-S4	BASIC/PLUS S2-S4	BASIC/PLUS S2-S4	BASIC/PLUS S4	BASIC/PLUS S4	BASIC/PLUS S4	BASIC/PLUS S4
FORK LENGTH	l	mm	800	950	1000	1150	1220	1350	1500	1800	2000
LOAD CENTRE DISTANCE	c	mm	400	475	500	600	610	675	750	900	1000
WHEELS, NUMBER (x=DRIVEN) FRONT/REAR			2x/2-2x/4	2x/2-2x/4	2x/2-2x/4	2x/2-2x/4	2x/2-2x/4	2x/4	2x/4	2x/4	2x/4
OVERALL LENGTH	l ₁	mm	1250	1400	1450	1600	1610	1800	1950	2250	2450
WHEEL BASE	y	mm	842	992	1042	1192	1292	1392	1542	1842	2042
LOAD DISTANCE, CENTRE OF DRIVE AXLE TO FORK	x	mm	582	732	782	932	1002	1132	1282	1582	1782
SERVICE WEIGHT		kg	72-74	77-79	79-81	86-88	86-88	115	123	140	151
AXLE LOAD LADED, FRONT/REAR		kg	314/958-960	368/909-911	383/896-898	395/889-891	435/851-853	469/844-846	493/830	530/808	552/798
AXLE LOAD UNLADEN, FRONT/REAR		kg	53/18-21	56/22-24	57/22-24	59/25-27	60/26-28	73/42	77/46	86/54	91/59
DISTANCE BETWEEN FORK ARMS (MIN/MAX**)	s	mm	525	525	525	525	525	525	525	525	525
TURNING RADIUS	W ₃	mm	1032	1182	1232	1382	1452	1582	1732	2032	2232
aisle width FOR PALLETS 800x1200 LENGTHWISE	Λ ₃₁	mm	1688	1838	1888	2063	2108	2238	2388	2688	2888

DECLARATION OF VIBRATION EMISSION (33.3)

Declared vibration emission values in compliance with EN 12096

Description	Value	European Norm (EN)	Test surface
Measured vibration emission value, a (m/s ²)	0.97	EN ISO 20643 (Hand-Arm)	Industrial smooth concrete floor
Uncertainty, K (m/s ²)	0.28		
Measured vibration emission value, a (m/s ²)	3.83	EN ISO 20643 (Hand-Arm)	On test track according to EN 13059
Uncertainty, K (m/s ²)	0.15		
Measured vibration emission value, a (m/s ²)	0.77	EN 13059 (Whole body)	Industrial smooth concrete floor
Uncertainty, K (m/s ²)	0.39		
Measured vibration emission value, a (m/s ²)	1.02	EN 13059 (Whole body)	On test track according to EN 13059
Uncertainty, K (m/s ²)	0.08		

Values determined in compliance with EN ISO 20643 and EN 13059.

1.0 GENERAL CONDITIONS

INTRODUCTION

"Self-propelled forklift" means any vehicle equipped with wheels (except those circulating on rails) designed to transport, tow, push, lift, stack or place any type of load on a rack and driven by an operator moving along with the forklift or on board the same, on a seat or a specific platform.

The ESET26P forklift is a type of self-propelled industrial vehicle called "electric pallet truck", a non-stacker forklift equipped with forks, driven by an operator on foot, whose purpose is to lift a load off the ground on a standardized pallet or container so it can be transported.

THE PERSONNEL APPOINTED BY THE COMPANY OWNING THE FORKLIFT IS OBLIGED TO FOLLOW THE GENERAL PROVISIONS OF THIS DOCUMENT FOR THE PURPOSES OF COMPLIANCE WITH SAFETY REGULATIONS.



THE FORKLIFT USE AND MAINTENANCE MANUAL MUST ALWAYS BE AVAILABLE TO THE OPERATOR

The operator has the obligation to prevent the use of the forklift by untrained personnel and must take away the starting keys when leaving the forklift, in order to prevent its use by others. It is advisable to provide only authorized operators with keys. The Employer, through the Supervisors of its Company, must ensure compliance with these provisions. The Supervisors of the Company must comply with the following provisions: - Ensure that the operators have good psychophysical characteristics. - Make sure that the operators know how to use of the forklift and have read this user manual.

The operator and the maintenance technician must perform routine maintenance as indicated in this manual in the dedicated chapter.

The operator and the person in charge of maintenance have the obligation to ask the Supervisor the intervention of the manufacturer technical assistance for the extraordinary maintenance indicated in this manual. The operator is obliged not to use the forklift while any defect is present.



IT IS FORBIDDEN TO PERFORM EXTRAORDINARY REPAIRS OR MAINTENANCE

All interventions performed by personnel not authorized by the manufacturer, with the exception of those expressly described in this use and maintenance manual, are prohibited. Any repairs or extraordinary maintenance performed on one's own or in unauthorized workshops can cause malfunctions which can consequently cause damage to people or property. In such cases, the manufacturer is relieved of any responsibility for compliance with general safety regulations. The repairer or maintenance technician (other than the manufacturer technician) assumes responsibility for compliance with the safety regulations for the whole machine and the technical file held by the manufacturer is not to be considered representative of the machine in its entire context. Any repairs or extraordinary maintenance performed on one's own or in unauthorized workshops, during the entire warranty period, automatically invalidate the warranty. The use of special equipment not built and installed by the manufacturer can change the conditions of use of the machine. It is mandatory to submit the installation of equipment directly to the manufacturer, for possible approval. Failure to comply with this rule indemnifies the manufacturer from any liability, as already indicated for repairs or extraordinary maintenance. Special equipment installed directly by the manufacturer will be documented with what is necessary for compliance with safety standards. The instructions for use and maintenance of the forklift with special equipment will be attached to this documentation.

ACCOMPANYING DOCUMENTATION





The forklift is supplied with accompanying documents in order to guarantee the reliable identification of the same and to indicate the correct conditions of use and maintenance. Upon receipt of the forklift, it is essential to verify the correctness of the purchase documents and verify the presence of the following documents: - DECLARATION OF CONFORMITY; - USE AND MAINTENANCE MANUAL.

In the absence of one or more of the documents mentioned above, it is essential to notify the dealer from which the forklift was purchased. In case of failure to supply the accompanying documents, it is forbidden to use the forklift.

2.0 RISKS

SAFETY MESSAGES

In order to safeguard the user safety and ensure the correct operation of the forklift, this use and maintenance manual contains the safety messages indicated below. In the case of messages "**DANGER**", "**WARNING**" and "**CAUTION**", the safety message is composed of a symbol (a triangle containing an exclamation point) followed by the text indicating the level of risk and is intended to alert the user about the potential damage that may result from the incorrect use of the forklift or failure to comply with the instructions for use and maintenance. Failure to comply with these safety messages could cause damage and/or the partial or total destruction of the product or other equipment connected to the same, or harm people. In the case of the "**NOTICE**", the safety message is composed exclusively of the text (without any symbol) and does not indicate specific risks, but simply provides a piece of information.

PICTOGRAM	DESCRIPTION
 DANGER	Indicates an imminent risk situation which, if not avoided, causes death or serious damage (e.g. amputations, severe burns, loss or deterioration of vision or hearing).
 WARNING	Indicates a situation of potential risk which, if not avoided, can cause death or serious damage (e.g. amputations, severe burns, loss or deterioration of vision or hearing).
 CAUTION	Indicates a situation of potential risk which, if not avoided, may cause minor damage (e.g. cuts, scratches, irritation).
 NOTICE	It is used for practices not related to physical injuries.

These symbols indicate the presence of a risk: the non-observance of the safety rules and the related indications can cause danger to people and property. A general risk is defined as the possibility of damage due to significant dangers such as: - *Tipping*; - *Fall of the load*; - *Explosion*; - *Crushing*; - *Electrocution*. Operators, maintenance personnel and anyone operating near the forklift are exposed to these risks.

RISKS FROM INCORRECT USE

To operate in safe conditions, it is necessary to comply with the following instructions and to deal with dangerous situations with caution.

GENERAL RISK. LIMITATIONS OF USE TO PERSONS OTHER THAN THE OPERATOR.

DEFINITION OF OPERATOR

An operator is defined as any person who is responsible for moving the truck and handling the load.

LIMITATIONS OF USE BY THIRD PARTIES

The operator has the obligation to prevent the use of the forklift by third parties by removing the key when moving away from the machine. When remaining near the forklift, with inserted keys, the operator will have to take care that no one accesses the controls.

GENERAL RISK CAUSED BY NON-KNOWLEDGE OF THE MACHINE

KNOWLEDGE OF THE MACHINE

The operator is required to have a thorough knowledge of the forklift, carefully study the instructions for use and work only with loads that do not exceed the capacity indicated on the plate.

GENERAL RISK CAUSED BY NON-KNOWLEDGE OF THE LOAD

KNOWLEDGE OF THE LOAD

The operator is required to know the stacking nature and state of the carried load. The operator has the right to refuse to transport loads which in his/her opinion are dangerous for the environments that must be crossed, or in any case are badly stacked.

GENERAL RISK CAUSED BY NON-KNOWLEDGE OF THE ENVIRONMENT

KNOWLEDGE OF THE ENVIRONMENT

The operator is required to know the presence, in the environments he/she must cross, of pollutants dangerous to humans or that can cause explosions due to incompatibility with the truck or which may react to the nature of the load. The presence of holes, bumps or obstacles along the route can cause risks for the operator or the truck. The handling areas and routes must be adequately paved, leveled and free from obstacles. The operator has the right to refuse to go through environments on routes that are dangerous for humans or the forklift. The operator has the right to refuse to transport loads which in his/her opinion are dangerous for the environments to be crossed.

GENERAL RISK CAUSED BY INCORRECT MAINTENANCE

KNOWLEDGE OF THE MAINTENANCE PROGRAM

The operator and the maintenance technician are required to know the maintenance program and to carry out routine maintenance scrupulously. In the case of ordinary maintenance entrusted to different operators of their company, they must ensure that the program is rigorously followed and that the work is carried out scrupulously. Extraordinary maintenance must always be entrusted to workshops authorized by the manufacturer.

GENERAL RISK CAUSED BY NON-COMPLIANT CLOTHING

CLOTHING

The operator of the forklift is obliged to use clothing that reduces the possibility of danger. We recommend using safety shoes, gloves, trousers and close-fitting jackets. The use of watches and metal jewelry is not recommended, since they could cause short circuits near the battery. In addition, use adequate protection in the presence of aggressive environments.

Read the instructions for use carefully.

3.0 TRANSPORTATION AND COMMISSIONING OF THE FORKLIFT

GENERAL INDICATIONS

For the transport of industrial forklifts on road or rail vehicles, the overall dimensions must be checked with respect to the limit shape and the permissible weight. If the forklift exceeds those limits, it is necessary to break down the parts that generate the excess dimensions and weight. The manufacturer assistance is required for this operation. To transport the forklift without a suitable container, it is necessary to firmly lock the forklift to the means of transport. In case of exposure, the forklift must be protected against atmospheric agents. For the loading and unloading of the forklift from the means of transport only use slinging equipment with suitable capacity and in good condition. To find out the total weight of the forklift, refer to the identification plate. Use the tools and instruments listed in the procedure indicated below. Do not improvise any maneuver that is not formalized by competent and authorized personnel. The operator, when parking the forklift, must never leave it in conditions that could cause damage or injury.

HARNESSING THE FORKLIFT FOR THE PURPOSE OF LIFTING IT

UNLOADING FROM A TRUCK, TOOLS AND INSTRUMENTS: - Forklift; - Bridge crane; - Pendant; - Hoisting straps.

CAUTION

Before starting the work, make sure to have adequate and appropriate accident prevention clothing available.



PHASE 1: With a forklift truck engage the pallet, lift and take the forklift to a safe place, equipped with a bridge crane, away from the transit of other vehicles and from pedestrian crossings.

STEP 2: - Remove the packaging. - Fix the pendants directly to the bridge crane. - Fix the hooks of the pendants to the points indicated for lifting the forklift (Ref. D, Fig. 2).

CAUTION

Make sure that the bridge crane is positioned perpendicular to the forklift to be lifted.

Lift slowly and carefully position the forklift on the ground.
For unloading from the truck, in the absence of a pallet, refer directly to step 2



COMMISSIONING AFTER TRANSPORT (Fig. 1)

After being transported, the forklift must be prepared for use in order to guarantee its correct operation. If the forklift has been dismantled due to transport needs, follow the instructions contained in this manual to reassemble it, or contact the assistance authorized by the manufacturer. Before operating the machine, check that all the parts are in perfect condition, check the operation of all units and the integrity of the safety devices.

MOUNTING THE DRIVING BAR (Fig. 1)

- Connect the driving bar (Ref. 1) to the pump unit (Ref. 5) using the pin (Ref. 2) and the plug (Ref. 3) supplied in the packing. Make sure that when positioning the driving bar on the pump, the end of the chain (Ref. 4) is passed through the appropriate hole in the pin (Ref. 2);
- Turn the bar slightly and pull out the lock pin of the wheelhouse spring.
- Connect the end of the chain (Ref. 4) to the descent pedal (Ref. 6) turning it to allow hooking and making sure that the head of the end enters completely into the special seat of the descent pedal, as shown in the figure.
- Connect the steering cable connector (Ref. 9) to the connector on the body between the wheels.
- Mount the foot protection (Ref. 10) with the supplied screws.
- Secure the cable to the foot protection with the supplied clamp (Ref. 11) as shown in the figure.

DRIVING BAR ADJUSTMENT (Fig. 1)

- Move the control lever to position B - Lifting - and raise the forks up to the maximum height by acting on the bar;
- Move the control lever to position A - Transport -;
- Make sure the bar (Ref. 1) is in a vertical position;
- Unscrew the locknut (Ref. 7) and slowly turn the adjusting screw (Ref. 8) clockwise until the forks descend;
- As soon as the descent movement is obtained, turn the adjusting screw (Ref. 8) one and a half turn anticlockwise, then tighten the lock nut (Ref. 7);
- Check that with the control lever in position A - Transport - there is no movement of the forks (neither ascent nor descent) in any position of the control bar;
- Check that with the control lever in position C - Descent - the descent movement of the forks takes place in any position of the control bar.

TILLER CALIBRATION

- In case the truck has been supplied with the tiller not installed, it's necessary to perform the tiller sensor calibration, in order to obtain the maximum working angle. In case the calibration is not performed, the truck can be used anyway, working with a reduced angle. See the paragraph "Tiller sensor calibration" at chapter 6 for the operative procedure.

WARNING

Do not use the forklift before having carried out the first start-up operations and having carried out the checks described above and in paragraph 5.0 in the PREVENTIVE CONTROLS section.

WARNING

Any damage to or malfunction of the forklift must be promptly communicated to the manufacturer service center. Never operate a damaged or defective forklift. forklift can only be used if they are in good condition.

CAUTION

Move the forklift with the battery current and never with rectified alternating current to avoid damaging the electrical components.

NOTICE

If the forklift needs repairs, place a clearly visible sign with the wording "OUT OF ORDER - DO NOT USE" and remove the key from the battery.

4.0 DESCRIPTION OF THE FORKLIFT

PLATE DATA (Fig. 2)

The following plates are present on the machine: A) Vehicle type identification plate indicating the MAXIMUM CAPACITY; B) Battery plate; C) Feet crushing hazard plates; D) Labels indicating the slinging points; E) Read booklet label, also indicating the position of the center of gravity.

The plates must not be removed or made illegible.

CAUTION

It is forbidden to exceed the capacity indicated on plate "A" affixed to the machine.

DESCRIPTION OF THE FORKLIFT AND LIMITS OF USE (Fig. 3)

The drawing shows the main components of the forklift:

1) FRAME; 2) IGNITION KEY; 3) DRIVING BAR; 4) CONTROL LEVER; 5) BATTERY; 6) LIFTING PUMP; 7) DRIVE WHEEL; 8) TRACTION ELECTRONIC BOARD; 9) USER INTERFACE ELECTRONIC BOARD; 10) LOAD ROLLERS; 11) BATTERY CHARGER

This is a semi-electric pallet truck with driving bar designed for lifting and transporting load units placed on pallets or in containers, on smooth floors without any roughness. The lifting of the load is done manually by means of a hydraulic pump controlled by the operator from the bar. The translation of the load can be done either electrically with the help of two drive wheels mounted on the same axis, or manually by pushing or pulling the bar. The selection of the translation mode is made using a special button. The electric mode makes it possible to use the forklift on both flat and inclined surfaces, within the limits described in the technical data sheet. The manual mode is intended for the exclusive translation of the forklift, empty and loaded, on horizontal surfaces.

The control elements are clearly visible and can be operated easily. The pallet truck complies with all current safety standards. On the frame there is an identification plate that indicates the lifting capacity that must never be exceeded for the safety of personnel and to avoid damaging the vehicle. It is advisable to strictly comply with the accident prevention regulations and those concerning operation and maintenance.

The forklift is essentially composed of the following parts:

Structure

Made with high-strength pressed steel, it is formed by a load-bearing frame including the forks and lifting mechanisms. The front loading rollers (Ref. 10) and the two driving wheels (Ref. 7) ensure stability and smoothness.

Traction

The electronic control (Ref. 8) independently actuates the motors on the axles of the two driving wheels. The rubber wheel rings are firmly anchored to the outer engine casing. This is set in rotation by cylindrical gears while the axles of the two wheels remain stationary, firmly connected to the lifting pump (Ref. 6). The speed and direction of travel are controlled by the operator by means of the butterflies (Ref. 1, Fig. 5) located on the driving bar.

Driving bar

The forklift can be driven by a conductor on foot. The steering angle is 210°. The driving bar acts directly on the driving wheels, so it must be rotated in the desired direction.

Brakes

Service braking is performed by the motor, releasing the accelerator. The electromagnetic brake, integrated in the driving wheel, acts as a parking and emergency brake and is applied automatically when the truck stops or is turned off.

Hydraulic system

It consists of a lifting pump (Ref. 6, Fig. 3) that can be operated manually via the driving bar (Ref. 3, Fig. 3) and the related control lever (Ref. 4, Fig. 3). A maximum pressure valve is installed in the pump to protect the mechanical and hydraulic system from overloads (Ref. 3, Fig. 4).

Electrical system

It consists of a specially programmed electronic control (Ref. 8) and control elements that can be operated from the head of the driving bar. Connections are secured against accidental loosening. Conductors are made of copper, very flexible and have a section suitable for the operating conditions and external influences that may occur. All electrical components are mounted so as to ensure proper operation and maintenance.

5.0 INSTRUCTIONS FOR USE

The operator must perform the following operations in the driving position; that is, must always take care to remain reasonably far from areas that may crush hands and/or feet such as forks, driving wheels and any other moving element.

SAFETY STANDARDS



The truck must be used in accordance with the following standards:

- a) The operator must be properly trained, know the instructions for use relating to the vehicle and wear the appropriate personal protective equipment.
 - b) The operator, responsible for the forklift, must prevent untrained persons from driving the vehicle and prevent anyone from getting on the forks.
 - c) During driving, the operator must appropriately reduce the speed when cornering, in narrow passages, going through doors or on uneven floors. He/she must make any unauthorized person move away from the area where the forklift operates and immediately inform if there are people in danger; in the event that, despite the warning, there is still someone in the work area, the operator must immediately stop the forklift.
 - d) It is forbidden to stand near the moving parts of the forklift and climb onto the fixed parts of the forklift.
 - e) The operator must avoid sudden braking and fast reversing.
 - f) The maximum slope for the forklift is indicated in the technical sheet. Never exceed the indicated limits. Never drive the truck across the slope. Ascents and descents are to be followed always and solely in the electric mode, in both loaded and empty conditions, with the forks facing upstream and with the lifting system lowered to a minimum height that allows translation.
 - g) During driving, the operator must be careful to have good visibility and have free space when reversing.
 - h) If the truck is transported on elevators, it must enter with the loading forks to the front. Never enter an elevator without prior authorization from the supervisor. Check the elevator capacity (it must support the weight of the forklift plus the operator plus any load). Approach the elevator slowly. Operate the elevator only after the forklift is well centered and perfectly level so that the elevator is well balanced. Make sure that the forks or other parts of the truck do not exceed the shape of the elevator.
 - i) It is absolutely forbidden to take out of service or disassemble the safety devices.
 - j) The lifting capacity of the forklift cannot be exceeded under any circumstances. The driver must make sure that the load is well placed on the forks and in perfect order; never protrude beyond the ends of these more than 50 mm.
 - k) Before starting the work, the driver of the forklift is required to carry out the preventive checks indicated (see the following paragraph PREVENTIVE CHECKS).
 - l) The forklift must always be used or parked away from rain and snow and in any case must not be used in very humid areas.
 - m) The forklift must be used only indoors, in suitable areas and in normal environmental conditions.
Permitted environmental conditions: - TEMPERATURE: 0 °C ÷ 40 °C; - ALTITUDE: up to 2000 meters; - RELATIVE HUMIDITY: 30 ÷ 95% (without condensation); - Minimum required lighting: 40 lux.
- In the presence of facilities with environmental conditions that are critical due to temperature, humidity or aggressiveness (salinity, dustiness, etc.), consult your dealer.
- If the truck works for long periods at altitudes above 1000 m, it is necessary to take into account that the cooling of the motors will be less efficient compared to working conditions at sea level.
- n) Immediately report any damage, breakdown or malfunction to the responsible personnel. If the forklift needs repairs, place a clearly visible sign with the wording "OUT OF ORDER - DO NOT USE" and remove the key from the battery.
 - o) It is forbidden to use the forklift until it is repaired.
 - p) If the driver does not have the necessary qualification, he/she is not authorized to carry out repairs on the forklift and is not allowed to deactivate or modify the safety devices and switches.

THE MANUFACTURER DOES NOT ACCEPT ANY CHARGE RELATED TO FAILURES OR ACCIDENTS DUE TO NEGLIGENCE, INCOMPETENCE, INSTALLATION BY NON-AUTHORIZED TECHNICIANS AND IMPROPER USE OF THE FORKLIFT.

SAFETY DEVICES (Fig. 4)

- **Ignition key** (Ref. 1); - **Electric brake** (Ref. 2); - **Maximum pressure valve** (Ref. 3); - **Foot guards** (Ref. 4): to prevent the crushing of the operator feet by the driving wheels during translation; - **Emergency reversal button** (Ref. 5): it is a safety switch located on the driving bar and protects the operator by reversing the movement of the forklift if the button is pressed by an object (for example the operator body) when the forklift moves towards the operator.

PREVENTIVE CHECKS

Preventive checks with the forklift switched off



Before using the forklift, check the conditions of the following parts as described in chapter 8.0 MAINTENANCE:

- Check the condition of the forks.
- Check the condition of the linkage and the correct operation of the manual control lever in the three positions (neutral, lifting, lowering).
- Check the condition and wear of the wheels and rollers.
- Check for oil leaks from the hydraulic unit.
- Check for damage to the battery.
- Check the effectiveness of the driving bar return mechanism, making sure that when taking it to pos. C, Fig. 6 it returns automatically to a vertical position (Pos. A, Fig. 6).
- Check the condition of the safety labels and stickers.

Preventive checks with the forklift turned on



Before using the forklift, check the operation of the following parts as described in chapter 6.0 OPERATING PROCEDURES

- Check that with the driving bar in the upper position and in the lower position (Pos. A-C, Fig. 6) the translation is not possible by actuating the accelerator.
- Check that with the driving bar in the working position (Pos. B, Fig. 6) the translation works correctly by actuating the accelerator.
- Check the operation of the emergency reversal button.

- Check the operation of the brakes.
- Check the operation of the horn.
- Check the operation of the manual mode.
- Check the operation of the turtle mode.



Do not enter with the forklift in places where flammable gases, vapors or dusts develop. The forklift is not equipped with explosion-proof guards.



Take the utmost care WHEN transporting hazardous materials; flammable liquids, acids, etc. must be transported in special closed containers. Avoid routes with holes, bumps and obstacles; if impossible, evaluate from time to time if they can be crossed and drive the forklift with extreme caution. Arrange so that holes, bumps and obstacles are removed as much as possible.



IMPROPER USE ON NON-SUITABLE SURFACES MAY CAUSE DANGEROUS SITUATIONS AND REDUCE THE LIFE OF THE FORKLIFT. Contact the service network for advice on the arrangement of the surfaces or the type of forklift most suitable for the surface in question.

ROUTE



Remove loose materials from the area of use that could cause the wheels of the forklift to slip or otherwise interfere with the use of the forklift. Never enter wagons or trailers without first checking that their wheels are braked or blocked with wedges. Check the tightness and condition of the flooring. Check the width, capacity and reliability of the loading surfaces. Observe the route. Check that the passage area is free. Pay attention to obstacles and the surrounding space, especially at the top. The danger points along corridors or paths must be secured and equipped with the usual road signs and, if necessary, additional signs.

PARKING



Before parking, lower the load completely. If leaving the forklift, turn it off. If the operator leaves the sight of the forklift, he/she must hold the keys in order to prevent others from using the machine. Avoid parking on a slope. In parking stops, even short ones, if possible do not stop the forklift on slopes.

TOWING OR PUSHING



Forklifts should not be used to push or tow loads or people.

CHANGE OF DIRECTION



A forklift can also be tilted at low speed due to the center of gravity of the load. A dangerous curve taken at relatively high speed can lead to the truck overturning. The truck is less stable when the forks are raised, even without load. A non-centered load on the forks and uneven paths increase the risk of tipping over. In taking a curve, the operator must take into account the displacements of the forklift due the change of direction. The space needed for the forklift to move around in a warehouse corresponds to the Ast stowage aisle, variable with the size of the load and shown in the table of technical characteristics at the beginning of this manual at point 4.34 for the indicated reference load. The operator must take into account the stowage aisle, always making sure that the space in which the curve takes place is free from obstacles. Not taking into account the stowage aisle corridor when facing a curve can also cause serious accidents. To eliminate the risk of overturning, never turn on a slope.

HANDLING OF LOADS



The indication of the maximum capacity on the plate relates to the maximum weight that can be raised at the related height and center of gravity. Factors such as the poor consistency of the pavement, rough terrain or loads with a high center of gravity that reduce stability must be taken into consideration; to work safely, the actual load capacity in these cases must be less than the maximum allowed.

LOAD STABILITY



Work only with stable loads. Never load unstable items. Do not handle a load composed of several detached parts if one of these parts is in precarious balance and close to falling. The transport of oscillating loads is not permitted.

LOAD POSITIONING

Make sure that the weight of the load is well distributed and balanced on the forks so that the load does not unbalance when taking a curve.



An unbalanced load on the forks will increase the risk of overturning.

OPERATIONS WITH THE LOAD

Translation with the load



Avoid sudden departures and movements that can lead to the overturning of the load with consequent damage or injury to property or persons.

OPERATIONS WITHOUT LOAD

Translation without load

Never drive the empty machine with the forks in raised position. Move with the forks raised only as far as it will allow them not to touch the ground and avoid obstacles.

DRIVING RULES

Visibility

In order to define the concept of visibility, it is necessary to indicate the terminology used for travel directions. The forklift in question is a machine that can only be driven by an operator on the ground. In general, the forward direction of the forklift is that which gives the best visibility to the operator.



Should the truck travel in poor visibility conditions, the operator must be assisted by specialized and authorized personnel.

Speed

The speed of travel of the forklift must be commensurate with the possible presence of people in the work area of the machine itself and with visibility, pavement status and load. Particular attention should be given to driving on wet and slippery routes. In any case, the truck must be driven at such a speed that it can be stopped safely.

Pedestrians

Use the horn to warn of the presence of the forklift and the danger that could arise for exposed persons such as pedestrians and people on the forklift path. Slow down near intersections, ramps and blind curves in order to reduce collision possibilities.

Ground obstacles

Avoid potholes, bumps, puddles and scattered objects that could cause skidding or overturning. Always choose the easiest route for the forklift.

Maneuvering space

Always pay attention to the space required for maneuvers, with particular attention to the forks, and to the stowage aisle. The operator must always keep in mind that the forks can protrude beyond the load, so they could accidentally bump on or lift other materials.

Narrow passages

Any narrow passages must be specially marked. Before entering a narrow passage, the driver must check that there are no people or other forklifts in the aisle. In this case, or if there are not enough measures to protect people or to avoid collisions with other trucks, the driver is prohibited from entering the passage.

Caution

Always drive the forklift with extreme caution: to avoid skids, jolts, etc. Carefully avoid creating dangerous situations, such as speed competitions and stunts.

Overtaking

Never overtake other forklifts near intersections, blind spots and other dangerous locations.

Road edges



Always keep at a safe distance from the ends of risky routes such as platforms, docks and ramps. Always pay attention to waste. Always bear in mind that when steering to move away from the ends of a loading surface, the forklift will make a sudden movement in the direction of the end itself.

Connecting ramps

Before driving on connecting ramps, the operator must make sure that the ramp has been correctly assembled and secured and that its transport capacity is adequate. On connecting ramps, proceed only at reduced speed and with extreme caution. The operator must make sure that the vehicle on which the loading and unloading operations are to take place does not move and that is able to support the weight of the forklift, the load and the operator.

Braking distance

In all driving conditions, the forklift must be driven at a speed that makes it possible to safely stop it in any situation, even when there is a sudden obstacle. Keep in mind that the braking spaces increase with the truck loaded and with smooth or wet floors.

Forklift arrest

The arrest must always take place as gradually as possible. Sudden braking and skidding can cause the load to fall.

Forklift parking

The operator must never leave the truck in conditions that could cause damage or injury. To park the truck, follow these instructions: - stop the truck; - lower the forks completely; - turn off the forklift.

When the butterflies are released in the neutral position, the parking brake is automatically applied to the driving wheels. Do not park on ramps or slopes. Remove the key from the battery.



Never park the truck in such a way as to prevent access to emergency exits, stairs and fire-fighting equipment.



Never park the forklift in a cold room.

6.0 OPERATING PROCEDURES

Control organs (Fig. 5)

1) Accelerator; 2) Emergency reversal button; 3) Ignition key; 4) Control lever; 5) Manual mode button; 6) Horn button; 7) Display screen selector button (PLUS version only); 8) Battery status icon (BASIC version only); 9) Battery status LED (BASIC version only); 10) Manual mode LED; 11) Display (PLUS version only)

Power on/off

To turn on the machine, insert the key completely (Ref.3, Fig. 5) in its seat on the battery pack. To turn off the truck, partially remove the key from its seat until the retaining tabs of the key are resting against the battery shell. For complete removal of the key (necessary when moving away from the truck for prolonged periods), starting from the truck off position, press the two retaining tabs of the key and simultaneously pull it towards you until it is completely released.

Emergency shutdown

In the event of an emergency, switch off the truck by removing the ignition key (Ref.3, Fig. 5) by pulling it until it rests against the retaining tabs.

Lifting and lowering

The control lever (Ref. 4, Fig. 5) can be adjusted in three different positions: "A" Transport, "B" Lifting, "C" Lowering (See Fig. 1). To raise the forks, set the lever to position "B" - Lifting (Fig. 1). Hold the bar with both hands on the upper part and pull it, making it rotate on its axis fixing it to the pump. Repeat the operation until the load is raised to the necessary height that makes it possible to move it without touching the ground. Once lifting is complete, move the control lever back to transport position "A" - Transport (Fig. 1). To lower the load, once the forklift has been positioned in the area where the load is to be released, grasp the bar in its upper part and move the control lever (Ref. 4, Fig. 5) to position "C" - Lowering (Fig. 1). The lowering speed is directly proportional to the travel of the control lever.



Carry out the lifting and load releasing operations always with the forklift in a level position to avoid unexpected dangerous movements of the truck.



Before releasing the load, always check that the area near the forklift is free from people or objects.

Electric translation (Fig. 5)

Before moving the forklift, check the operation of the horn (Ref. 6), of the brake and that the battery is sufficiently charged (Ref. 9, Ref. 11). When the truck is switched on, it is activated in "Electric" mode. To operate the forklift, it is necessary to bring the bar to the central position (Pos. B, Fig. 6) and slowly rotate the accelerator (Ref. 1) towards the desired direction until reaching the desired travel speed. Release the accelerator to stop the movement. Leaving the bar

automatically return it to its rest position (Pos. A, Fig. 6). Bringing bar to the upper or lower position (Pos. A-C, Fig. 6) while driving, stops the truck regardless of whether or not the accelerator is activated. Always steer gently, as sudden movements cause dangerous situations (especially when the forklift moves at high speed). Reduce speed in bottlenecks and when curving. Electric drive is allowed until the battery charge is over the 20% threshold, shown on the display for Plus version or by the turning off of the battery status led for Basic version. Below such thresholds the truck can be used only in manual mode for about an hour until the battery is completely discharged.

NOTICE

When the charge level is too low, the forklift automatically shuts off the electric traction and stops activating the parking brakes.

Manual translation (Fig. 5)

It is possible to switch to "Manual" mode by pressing the appropriate button (Ref. 5) on the bar. Manual mode activation is only possible with the bar in the upper position (Pos. A, Fig. 6), keeping the button pressed for at least 1.5 seconds. When the manual mode is activated, the LED lights up to indicate the related status (Ref. 10), the brakes are released and the forklift can be used like a normal hand pallet truck. The manual mode can be activated until the battery has a residual charge above a certain minimum threshold and, in addition to normal use in manual mode, allows the forklift to be taken to the charging station when the battery is too low for electrical operation.



DANGER

The use of the forklift in manual mode is only allowed on level ground. It is forbidden to use it on ramps or slopes. For this reason, switching to manual mode is only allowed when the machine is standing on horizontal ground and with the driving bar in a vertical position.

If the battery charge level is sufficient, switching from manual mode to electric mode is possible at any time, regardless of the truck working condition, by pressing the manual mode selection key. When the electric mode is activated, the electromagnetic brakes are actuated and the forklift stops if it is moving.

Turtle mode

For use in narrow spaces or to handle delicate goods with precision and safety, it is possible to use the "turtle" mode. The turtle mode can only be activated with the bar completely raised (Position A, Fig. 6) and allows the forklift to be moved at reduced speed. To activate the turtle mode, with the bar in the upper position, simultaneously press the Emergency reversal button (Ref. 2, Fig. 5) and the display screen selector button (Ref. 7, Fig. 5) in the Plus version or the battery icon button (Ref. 8, Fig. 5) in the Basic version. The activation of the turtle mode is indicated by a special icon on the display (Plus version only) and by activation of the intermittent audible warning device. The turtle mode remains active, regardless of the position of the bar, as long as the forklift is moved; it deactivates when the forklift is stopped, after 5 seconds of inactivity. It is possible to bypass the 5 second waiting, starting from the stationary forklift and the bar in vertical position, placing the bar in running position before turning the accelerator (Position B, Fig. 6).

Steering

The forklift can be driven by a conductor on foot. The steering angle is 210°. The bar acts directly on the driving wheel, so to change direction it must be rotated accordingly. Once released, the bar automatically returns to the upper position braking the truck until it stops, then the parking brake is applied.

Braking

The truck brakes automatically by releasing the accelerator. In electric mode, emergency braking is performed by moving the bar to the upper or the lower position. If the electrical system is disconnected, the electromagnetic brake acts as a parking brake. In manual mode, emergency braking can be obtained by removing the key from the battery.

User interface

When the machine is switched on, the three LEDs on the panel light up for a few moments, turning off if the starting process has been completed correctly. The following elements are present on the front panel of the bar:

MANUAL MODE button (Ref. 5, Fig. 5): Activates the manual driving mode as described in the relevant paragraph.

LED MANUAL MODE (Ref. 10, Fig. 5): Lights up red when the manual mode is active.

HORN button (Ref. 6, Fig. 5): Pressing the button activates the audible alarm that goes off when it is released.

BASIC version

LED BATTERY STATUS (Ref. 9, Fig. 5): this green LED, located below the battery status icon (Ref. 9, Fig. 5), provides a qualitative indication of the remaining battery charge level: - **LED on** = battery charged; - **Flashing LED** = battery almost empty, it is advisable to recharge it as soon as possible and switch to manual mode; - **LED off** = low battery, the electric mode is disabled and it is possible to drive the forklift only in manual mode

PLUS version

SCREEN SELECTOR button (Ref. 7, Fig. 5): where, in the BASIC version, there is the battery status icon, it makes it possible to switch from one page to another on the display as described below.

Display (Fig.8)

The display is activated when the machine is switched on and remains in operation until it is switched off. It provides information on the status of the forklift and makes it possible to select different operating modes. The information is divided by type and organized on several pages. At power on, the firmware version is temporarily displayed, after which the first page appears with information about the battery.

Page 1 "Battery":

Shows the battery charge level, reported as a "%" value with respect to the maximum capacity.

Page 2 "Times"

It shows the following parameters: "Total (h)", which indicates the total time in electrical mode of the machine since the first ignition; "Trip (h)", which indicates the translation time in electric mode since the last reset. To reset the "Trip (h)" parameter, when on Page 2, keep the SCREEN SELECTOR button (Ref. 7, Fig. 5) pressed until the parameter is reset.

Page 3 "Distance traveled"

The parameters "Total (km)" and "Trip (km)" respectively indicate the total distance traveled by the machine in electric mode from the first start up and from the last reset. The "Trip (km)" parameter can be reset starting from Page 3 with the same procedure used for resetting the "Trip (h)" parameter.

Please note: The reset of the "Trip (h)" parameter also involves that of the "Trip (km)" parameter and vice versa.

Page 4 "Speed adjustment"

In this page, it is possible to select the operating mode of the motor, adjusting the maximum translation speed of the forklift. The "Speed Set" parameter represents the value of the maximum speed set on the forklift expressed as % of the maximum possible speed. The parameter default setting is 100%. On this screen, each time the acoustic signal button is pressed (Ref. 6, Fig. 5), the speed can be changed in the sequence 100% -60% -70% -80% -90% -100%. The page also shows the real time translation speed of the forklift, shown in km/h.

Page 5 "Diagnostics"

It provides indications on the operating status of the electronic control of the motors, reporting the following parameters: "Thr", variable from 0 to 100, represents the % of accelerator actuation; "Tor", which indicates the traction torque applied by the wheels; "Ang", which represents the angle (in degrees) of orientation of the bar with respect to the vertical position; "Temp", made up of two values that respectively represent the temperature of the right motor and left motor control driver; "FSM", which is associated with a two-digit number representing the logical state of electronic traction control and is useful for identifying any problems in the event of operating anomalies; "BMS", shows the status of the serial communication with battery, BMS indication present if communication is active, BMS indication absent in communication is not active; "B=0", shows the status of the emergency inversion button (Ref. 2, Fig. 5), b=0 if button is not pushed, B=1 if button is pushed.

Page 6 "Errors"

It shows the "CODE" parameters whose number represents a certain error code; "Batt", show the battery voltage; "SOC", shows the battery charge level, reported as a "%" value with respect to the maximum capacity; "T", motor controller temperature.

AGILE TILLER SENSOR CALIBRATION

- 1) Turn on the pallet truck and place it on a horizontal surface.
- 2) Activate the manual mode [press and hold of the "hand" button (ref.5, fig.5) holding the tiller in the upper end stroke position].
- 3) Press and hold the "emergency inversion" button (ref.2, fig.5) and at the same time press and release 4 times the "horn" button (ref.6, fig.5). After such sequence the horn sounds and the "Diagnostic" picture is displayed for a few moments on the display.

4) The inclinometer "SETUP" mode is active (ref.1, fig.9) and the default parameters of the stroke sensor function are shown. The two numbers triads printed on the first two rows represents: default tiller stroke inclination limit – correction (default 0.0°) – angle span where the truck translation is not allowed starting from the end stroke inclination: - Row 1: "Upper limit"; - Row 2: "Lower limit"; - Row 3: instantaneous tiller inclination; - Row 4: traction board inclination; - Row 5: correction acquisition confirmation.

5) UPPER CORRECTION SETTING: keeping the tiller on the upper stroke limit press and hold the "horn" button (ref.6, fig.5). When the horn button is pressed, the horn emits a short acoustic signal; subsequently, after a short silence break, the horn emits a longer tone at the end of which the "horn" button can be released. While the second signal is emitted the led underneath the horn button turns on at → the upper angle correction has been acquired and the second value of the first triad becomes different than 0 (ref.2, fig.9).

6) LOWER CORRECTION SETTING: place the tiller on the lower limit, press and hold the "horn" button (ref.6, fig.5). When the horn button is pressed, the horn emits a short acoustic signal; subsequently, after a short silence break, the horn emits a longer tone at the end of which the horn button "horn" can be released. While the second signal is emitted the led underneath the central button turns on → the lower angle correction has been acquired and the second value of the second triad becomes different than 0 (ref.2, fig.9).

7) Record the corrective parameters holding the "horn" button until a sound signal is produced and the system leaves the SETUP menu.

8) CALIBRATION EFFECTIVENESS VERIFICATION: lift the forks in order to place the major rocker arm side in a horizontal position, then rotate the tiller and verify if the led light underneath the "horn" button turns on after a rotation of about 10 degrees. Continue rotating the tiller until the led light turns off (the lower traction disabling position is reached). Verify that the led light turns off some degrees before the lower stroke mechanical limit. In case this condition is not satisfied, repeat the calibration procedure.

Warning: hold the tiller on the upper and lower limit positions applying a gentle push. An excessive pushing may cause a wrong acquisition of the correction parameters.

Warning: in order to prevent errors, in case the correction acquired is not coherent with the expected values, the systems resets to zero the calibration. This control feature can be also used to reset the correction values to zero, performing a calibration procedure that acquires two inconsistent values (for example two equal values or a central value).

STORING THE MACHINE AND PUTTING IT BACK INTO SERVICE

Short-term storage

A period between 1 and 6 months is considered short-term storage. The procedure below is indicative for climatic conditions with temperatures above 0 °C. This procedure must be changed in order to meet different local conditions: any unforeseen changes in atmospheric conditions during the inactivity period must be taken into consideration. For short-term storage, the following instructions must be followed: - Store the forklift in a place free of humidity or dust. - Turn off the machine with the key switch and check that all the instruments are switched off. - Make a good general cleaning. - Keep the lifting system fully lowered; grease the raceways and lubricate only the part that remains exposed in the cylinder rods. - Make sure the battery is charged. If not, recharge the battery. - Disconnect the battery. - Important: recharge the battery every month. - Protect the forklift with a cloth or other protective material. In humid conditions, coverage is not enough to preserve the forklift from rust; it is preferable, in the case of a damp or saline environment, to store it in a closed facility.

Permitted environmental conditions:

TEMPERATURE: 0 °C ÷ 40 °C

RELATIVE HUMIDITY: 30 ÷ 95 % (without condensation)

PUTTING THE FORKLIFT BACK INTO SERVICE AFTER A SHORT INACTIVITY PERIOD

When putting the forklift back into service, it is advisable to: - Check the battery charge. - Grease all the greasing parts. - Check all truck functions; pay particular attention to the operation of the brake, perform some braking without load and check the continuity of the braking action. In the case of anomalies, turn off the forklift and consult the nearest dealer.

Long-term storage

For storage periods longer than 6 months, carry out the following operations: - Perform all operations required for short-term storage. - Remove the battery from the forklift and place it, raised from the ground, in a special space approved for this purpose. Be sure to comply with local regulations. Long periods of storage can damage the batteries. If possible, it is advisable to use the batteries removed from the stored trucks in those in normal service. Batteries will deteriorate if not used. - Treat the frame and external surfaces with a protective spray.

PUTTING THE FORKLIFT INTO SERVICE AFTER A LONG INACTIVITY PERIOD

When putting the forklift back into service, it is advisable to: - Carry out all the work required for restarting after a short inactivity. - Refit the battery and check its charge level.

7.0 BATTERY

INSTRUCTIONS, SAFETY MEASURES AND MAINTENANCE

Inspection, charging and changing of the battery must be carried out by authorized personnel following the instructions of use of the manufacturer of the same. This chapter is intended to provide the operator with the necessary information to safely carry out checks, recharges and battery changes.



Failure to comply with the instructions in this chapter and the instructions in the battery instruction manuals can cause serious damage to persons or property due to the danger posed by the batteries.



We recommend using safety shoes, gloves, protective glasses and appropriate clothing when working with batteries.



It is forbidden to smoke and keep flammable or sparking material near the truck and the charging device. The environment must be well ventilated.

The weight and size of the battery can affect the stability of the forklift, so if a battery different from the standard ones is mounted it is advisable to consult the MANUFACTURER for the necessary authorization. The remaining battery charge level is visible on the front panel of the wheelhouse. When the charge falls below a predefined threshold, it is no longer possible to use the electric mode, but the machine can still work in manual mode to finish the work and to reach the charging socket. If work is continued without recharging the battery, the machine will continue to be usable in manual mode for a certain time after which, once a minimum charge threshold is reached, the machine will stop. It is advisable never to go below a 20% charge level (in the BASIC version, this condition is indicated by the complete switching off of the battery status LED).

CHARGING OF THE BATTERY (Fig. 7)

To be charged, the battery must be removed from its compartment on the bar: turn off the forklift by disconnecting the key from the battery (Ref. 1); Remove the battery by pulling it upwards (Ref. 2); Disengage the locking tooth from the support body by pulling the battery lengthwise (Ref. 3).

Before starting the charge, check the integrity of the conductors. Then connect the battery to the charger connector; reinsert the key into the battery and connect the charger plug to the mains. The charger is equipped with an LED indicator that is activated during the charging phase to indicate the progress status. During charging the LED is solid red. At the end of the charge, the charger cuts off the power supply and the LED turns green. Turn off the charger, remove the key from the battery and disconnect the battery from the charger. Reinsert the battery into the compartment on the bar by following the steps described above in reverse order, from step 3 to step 1 (Fig.7). A normal recharge takes 3 to 4 hours. It is preferable to recharge the battery at the end of the forklift use shift. There is no risk of overcharging, so it is not necessary to disconnect the charger after the total recharge.



In order to charge the battery it is necessary that the key is inserted in the battery.

CAUTION

Never discharge the batteries completely. Excessive discharge of the batteries reduces their life.

DANGER

For the battery charge always remove the battery from the truck. Never force the battery charger connector into the key connector. The two connectors are different.

BATTERY CHANGE

To replace the battery, remove it from the bar following the same procedure described for charging.

CAUTION

Always replace the battery with a battery of the same type.

WARNING

HANDLE THE BATTERY CAREFULLY. Do not short-circuit the poles, do not reverse the polarity, do not wet or puncture the battery. Do not use the battery if it is deformed, too hot or if it gives off an odor. In the event of acid leaks, handle only with suitable personal protective equipment. In case of contact with the electrolyte, wash with water. If the electrolyte comes into contact with the eyes, wash with plenty of water and contact a doctor.

IN CASE OF ACCIDENT CONSULT A DOCTOR!

CAUTION

In case of battery replacement, deliver the old one to the nearest collection center.

8.0 MAINTENANCE

GENERAL PRINCIPLES

This chapter includes the maintenance schedule and detailed instructions for verification and maintenance operations. The maintenance program indicates the time intervals to be followed for verification, maintenance and replacement operations. These intervals are intended for normal work cycles. Normal means an eight-hour day shift in relatively clean environments and on suitable floors. Particular environmental conditions (for example, dusty environments or cold rooms) will require a reduction in the intervals indicated in the maintenance program. Failure to follow the recommended maintenance schedule may reduce the operating efficiency and life of the truck. The operator or the maintenance person must perform periodic inspections, formulating opinions and assessments only from the safety standpoint, without being influenced by corporate and economic factors. They must have sufficient knowledge and experience to enable them to check the status and conditions of the forklift.

NOTICE

Replacement operations must only be carried out by specialized personnel appointed by the manufacturer of the forklift.

Maintenance must be carried out by specialized personnel. The forklift must be subjected to a general inspection at least once a year. After each maintenance intervention, the operation of the machine and the safety devices must be checked. Subject the forklift to periodic inspections to avoid machine downtime or danger to personnel! (See maintenance table).

WARNING

To perform maintenance in safe conditions, it is mandatory to remove the ignition key.

Maintenance table

ELEMENT	CHECKS	INTERVAL		
		3 MONTHS	6 MONTHS	12 MONTHS
STRUCTURE AND FORK	Check bearing elements	●		
	Check tightening bolts and screws	●		
	Check bushings	●		
BRAKES	Check operation	●		
	Check braking power		●	
ROLLERS	Check wear	●		
	Check bearing clearance		●	
	Check anchoring	●		
DRIVING WHEELS	Check noise level	●		
	Grease gears			●
DRIVING BAR	Check clearance		●	
	Check lateral movement	●		
	Check return to vertical position		●	
HYDRAULIC SYSTEM	Check operation	●		
	Check for leaks and wear of seals		●	
	Change oil			●
	Check operation of the pressure limiting valve			●
	Check the flow limiting valve			●
ELEMENT	CHECKS	INTERVAL		
		3 MONTHS	6 MONTHS	12 MONTHS
ELECTRIC SYSTEM	Check connections, cable failures		●	
	Check the main switch	●		
	Check the acoustic warning	●		
	Check the "dead man" sensor	●		
	Check fuse values			●
BATTERY	Check anchoring and sealing	●		
	Check cable integrity		●	
INSPECTIONS	Check the ground connection of the electrical system			●
	Check translation, raising and lowering speed of load forks			●
	Check safety devices	●		
	Test lifting and lowering with nominal load	●		

CLEANING THE FORKLIFT: Clean all parts of the machine, excluding the electric and electronic parts, with a damp cloth. Never wash with direct water jets, steam or flammable liquids. Clean the electrical and electronic parts with dehumidified low pressure compressed air (max 5 bar), or with a non-metallic brush.

Lubrication table

LUBRICATION POINTS	TYPE OF LUBRICANT	INTERVAL		
		3 MONTHS	6 MONTHS	12 MONTHS
WHEELS AND ROLLERS	NLGI-2 Lithium Grease	●		
GEARS	NLGI-2 Lithium Grease			●
HYDRAULIC SYSTEM	Oil viscosity 40 °C cSt46			●

Lease note: - Use hydraulic oil, excluding engine and brake oil.

Note: Dispose of used oil respecting the environment. We recommend accumulating it in drums to be delivered later to the nearest collection center. Do not drain the oil on the ground or in unsuitable places.

9.0 TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION
The machine does not start	Low battery	Charge the battery
	Burned fuse	Replace
	Broken key	Fit a new key
	Electrical system short circuit	Check the electrical system
	Damaged traction control board	Replace
	Damaged user interface board	Replace
The forks do not rise	The lever is not in position B - Raising	Put the lever in position B
	Valve sphere does not close	Put the lever in position A -Transport and pump quickly with the hand, so as to wash the valves with the oil that passes through them
	Adjustment screw displaced	Unscrew the locknut and adjust the screw until the forks no longer fall into the A-transport position. Tighten the locknut
	Piston seals worn or damaged	Replace the piston seals
	There is no oil in the tank	Fill the tank with oil
The forklift does not brake	Low braking torque	Replace the brake
The battery does not charge	The battery is not connected to the charger	Connect
	The key is not inserted in the battery	Insert the key
	The charger is not connected correctly	Check the connections
	Battery charger fuse broken	replace
The forks do not remain raised	Worn cylinder seals	Change the seals
	Dirty pressure valve	Clean the valve

Error code	ID	Description	Solution
1	Low_SOC_NOBMS	Battery state of charge is too low, no communication with BMS	Charge the battery, check that battery is PLUS type
128	Low_SOC	Battery state of charge is too low	Charge the battery
512	TEMP_1	Motor 1 controller temperature is too high (=150 °C)	Stop the machine and allow it to cool down. Electric traction is restored when temperature goes down to 85 °C
1024	TEMP_2	Motor 2 controller temperature is too high (=150 °C)	Stop the machine and allow it to cool down. Electric traction is restored when temperature goes down to 85 °C
Error code combinations			
129	Error 1+128		
513	Error 1+512		
1025	Error 1+1024		
640	Error 128+512		
1152	Error 128+1024		
1536	Error 512+1024		



If none of the suggested solutions solves the problem, take the forklift to the nearest service center.

10.0 DISPOSAL INFORMATION

DISPOSAL OF BATTERIES

Exhausted batteries cannot be abandoned among normal solid waste, but, being composed of harmful materials, must be collected, disposed of and/or recycled under the laws in force in the individual Countries.

DISPOSAL OF LUBRICATING OILS

Used oil must be collected and not dispersed in normal drains; special companies undertake to dispose or possibly recycle industrial oils, under the laws in force in the individual Countries.

SCRAPPING THE FORKLIFT

The forklift is made of recyclable metal and plastic parts. Below is a list of the materials used in the sub-units of the forklift:

FRAME: Frame - Steel; Wheels - Vulkollan, Polyurethane, Rubber; Finishing - Plastic.

ELECTRICAL SYSTEM: Cables - Copper cores and PVC sheets; Motors - Steel, copper and aluminum; Electronic board - Aluminum, copper, ceramic and plastic

HYDRAULIC SYSTEM: Tank - Rubber and plastic; Pump Unit - Cast Iron and Steel.





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