

<p>ZAMPERLA INC. 49 Fanny Road Parsippany, New Jersey 07054-6545 USA Phone: 973 334 8133 Fax: 973 334 6880</p>	Bulletin No: 2002 TF1
	Release Date: April 12, 2002
	Effective Date: April 12, 2002
	Supersedes:
	Completion Date: Immediately
Page: 1 of 2	



SERVICE BULLETIN



Ride Manufacturer: Soriani by Zamperla	Affected Production Dates: All
Ride Name: Turbo Force	Affected Serial Nos.: All
Model Number: Turbo Force	

Abstract Of Issue:

Zamperla would like to increase the safety margin of the shoulder harness.

Reason For Release:

Same.

Action To Be Taken:

Adjust the position of the shoulder restraint microswitch to activate when the jaws of the locking mechanism is locked securely in the valley between the second and third tooth of the restraint.

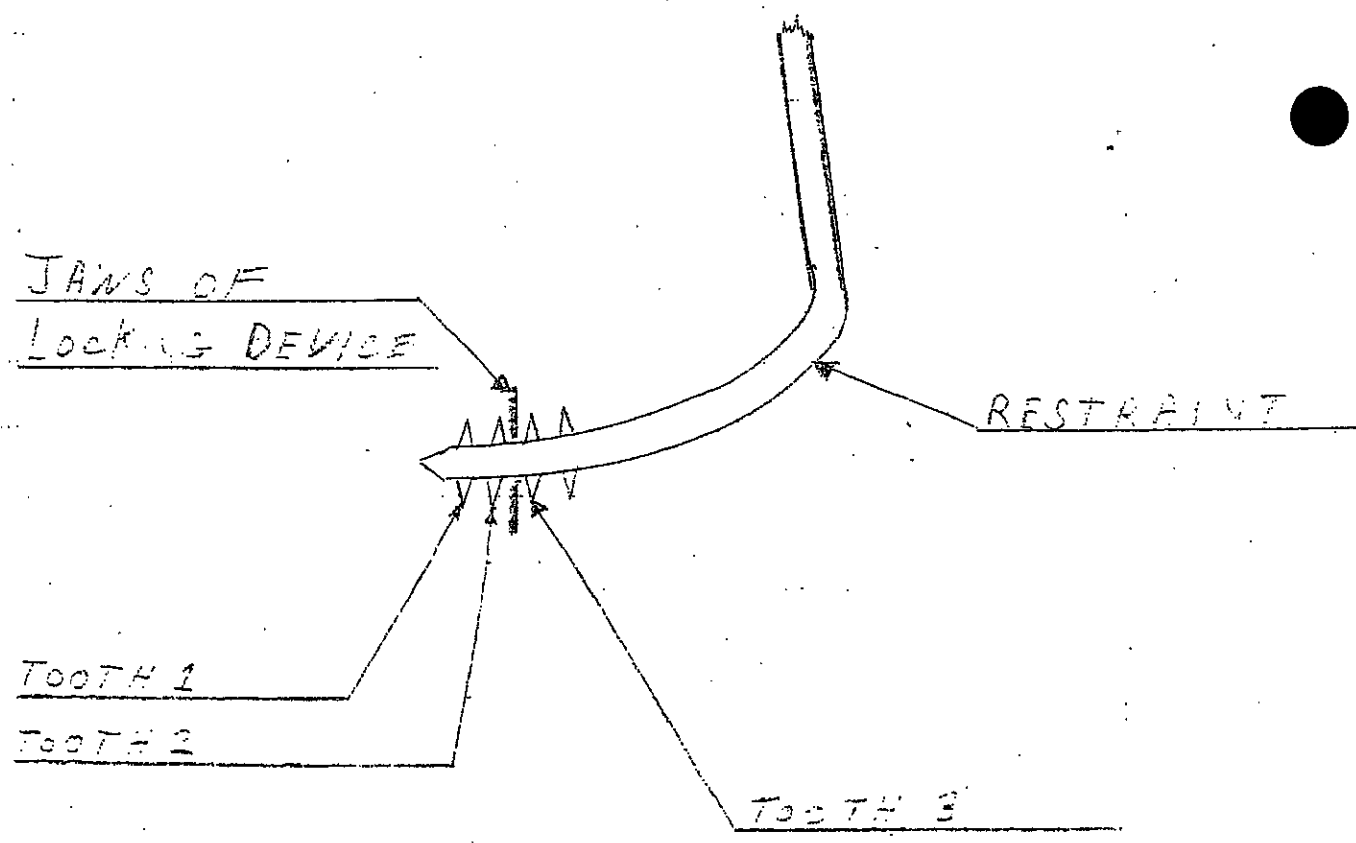
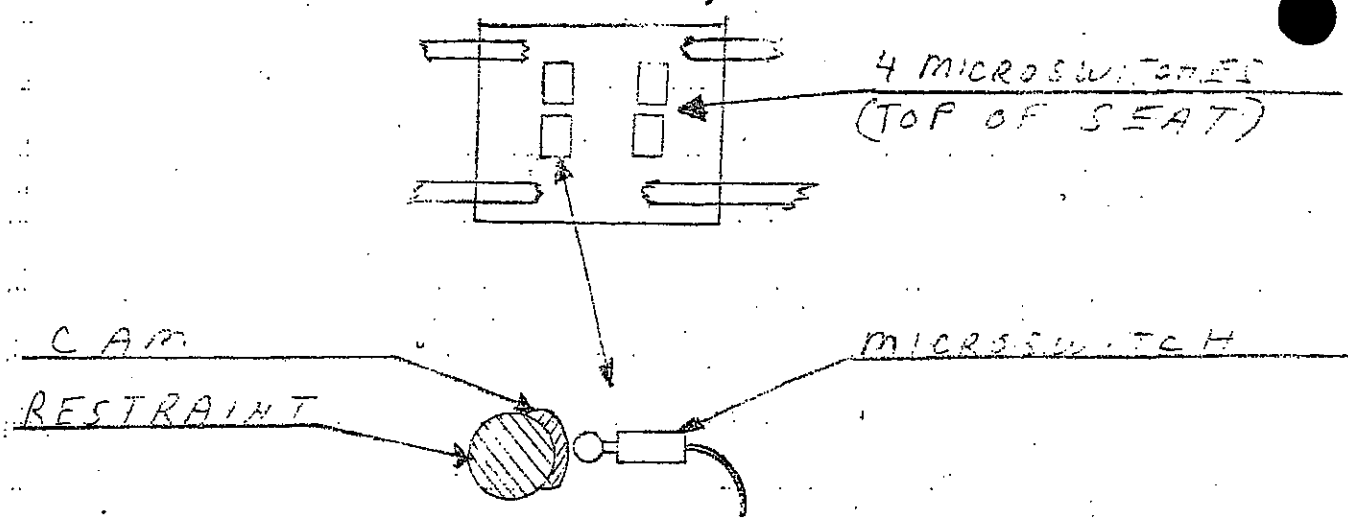
Detail Of Issue:

Diagram to adjust the position of the restraint microswitch (page 2 of 2).

Future Action To Be Taken:

Inspect the restraint security system on a regular basis.





<p>ZAMPERLA INC. 49 Fanny Road Parsippany, New Jersey 07054-6545 USA Phone: 973 334 8133 Fax: 973 334 6880</p>	Bulletin No: 2002TF2
	Release Date: April 12, 2002
	Effective Date: April 12, 2002
	Supersedes:
	Completion Date: Immediately
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SERVICE BULLETIN



Ride Manufacturer: Soriani by Zamperla	Affected Production Dates: N/A
Ride Name: Turbo Force	Affected Serial Nos.: GTF08R00317US
Model Number: Turbo Force	GTF08R00445US

Abstract Of Issue:

Components of the sweep arm support attachment joint should be replaced.

Reason For Release:

The new components increase the strength of the joint..

Action To Be Taken:

Install the supplied components as indicated in the following diagram.

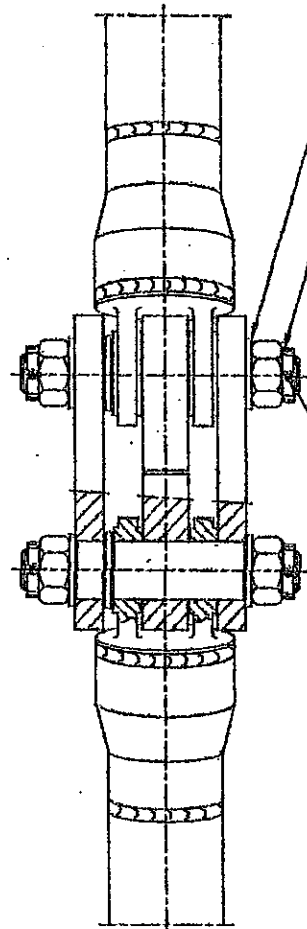
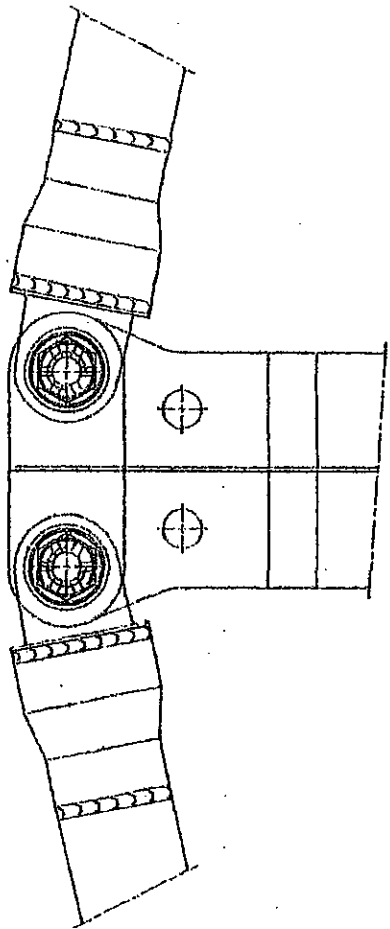
Detail Of Issue:

Diagram (page 2 of 2).

Future Action To Be Taken:

None.

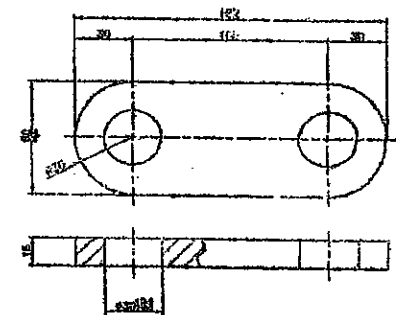




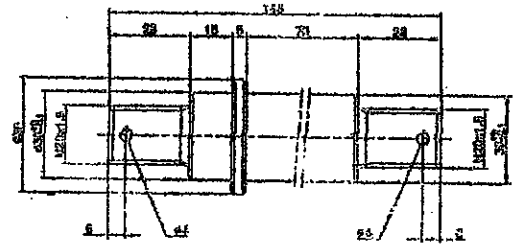
WASHES-UNI 6592-21x37-R80
N°4 PIECES

NUT-UNI 5593-M20x1.5-6S
N°4 PIECES

SPLIT PIN-UNI 1336-4x40
N°4 PIECES



N°2 Pz. MAT. 5442



N°2 Pz. MAT. 5442

<p>ZAMPERLA INC. 49 Fanny Road Parsippany, New Jersey 07054-6545 USA Phone: 973 334 8133 Fax: 973 334 6880</p>	Bulletin No: 2002 IF3
	Release Date: August 16, 2002
	Effective Date: August 16, 2002
	Supersedes:
	Completion Date: Immediately
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SERVICE BULLETIN



Ride Manufacturer: Soriani distributed by Zamperla	Affected Production Dates: All
Ride Name: Turbo Force	Affected Serial Nos.: All
Model Number: Turbo Force	

Abstract Of Issue:

A crack has been detected in the weld of an arm pipe support.

Reason For Release:

A failure of an arm pipe support has occurred during operation. As a result, the pipe separated from its center attachment point.

Action To Be Taken:

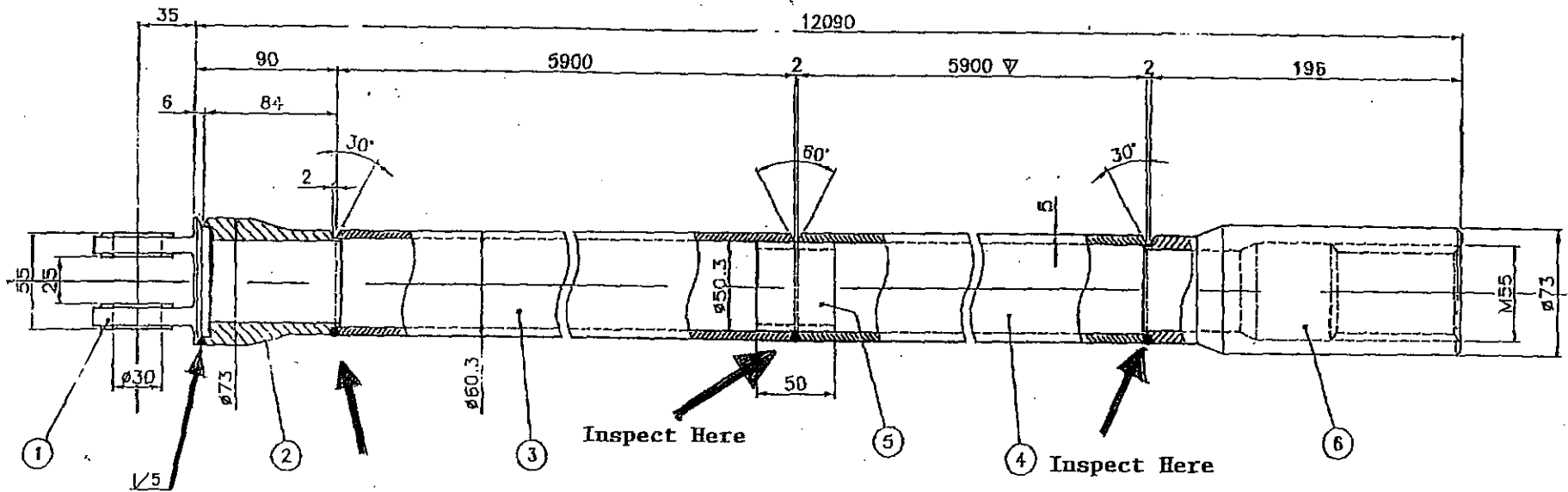
Visually inspect the welds of the arm pipe supports. Verify that the annual NDT inspection of the arm pipe supports is current (refer to manual).

Detail Of Issue:

Diagram of the pipe support. (page 2). Contact Zamperla if a crack has been detected.

Future Action To Be Taken:

Follow the correct installation and maintenance procedure as outlined in the instruction manual and the attached page (page 3). Use all original hardware. Do not replace the original pins with bolts on the center attachment point of the arm pipe supports.

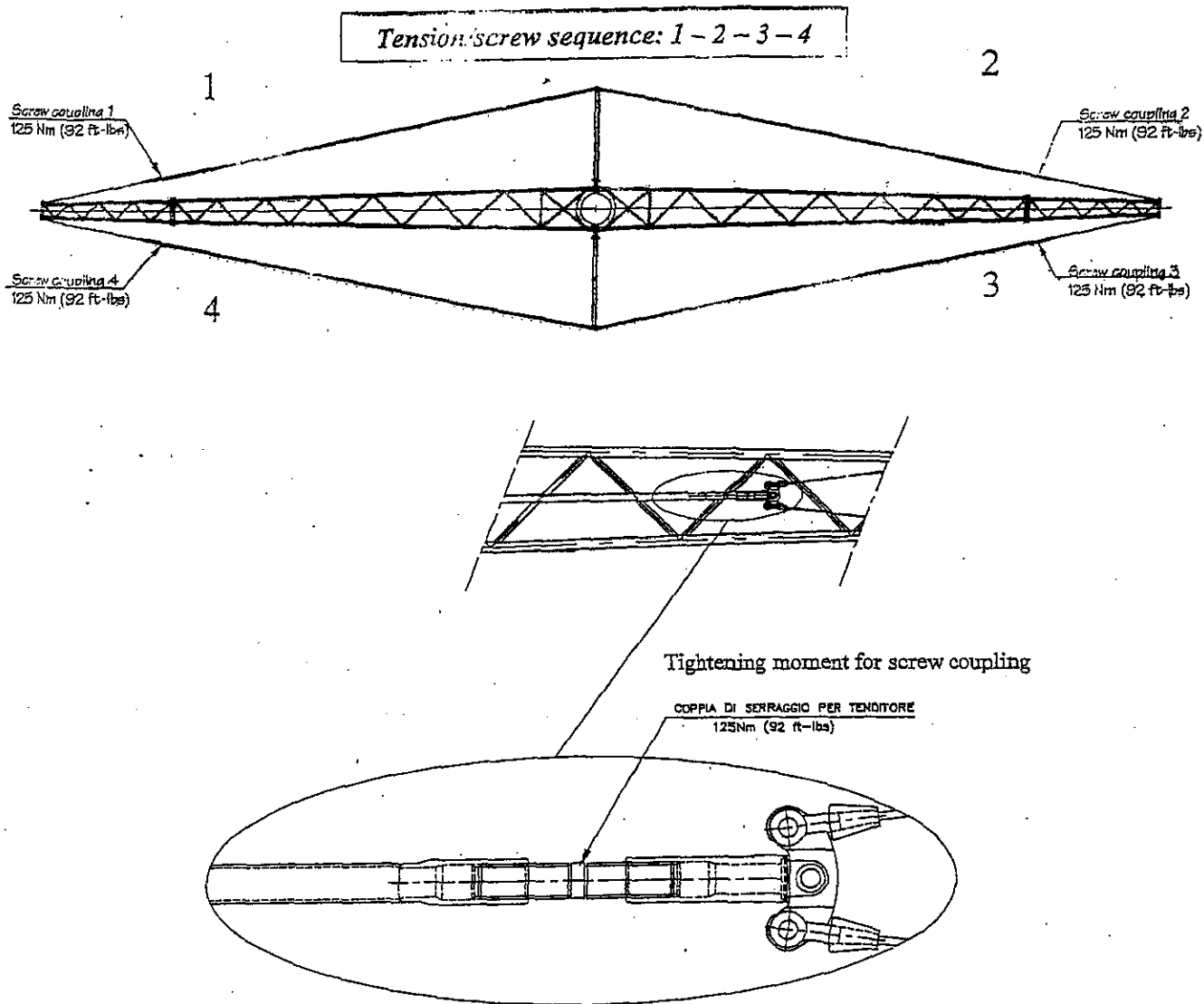


Area
of Failure

Inspect Here

PAGE 2 of 3

8	MANICOTTO ADATTATORE REDUCING COUPLING	023.004.006B	VEDI DIS. (See dwg)	1	4
5	TUBO Ø51x5 L=50 PIPE Ø51x5 L=50		(S 235-R) Fe 360 B	1	0.3
4	TUBO S.S. Ø60.3x5 L=5900 SEAMLESS TUBE Ø60.3x5 L=5900		S 355-R (Fe 510 B)	1	40
3	TUBO S.S. Ø60.3x5 L=5900 SEAMLESS TUBE Ø60.3x5 L=5900		S 355-R (Fe 510 B)	1	40
2	MANICOTTO ADATTATORE REDUCING COUPLING	023.004.005B	VEDI DIS. (See dwg)	1	2
1	TERMINALE PER CILINDRO LAVORATO CYLINDER LINKAGES	023.004.007A	VEDI DIS. (See dwg)	1	1
POS.	DENOMINAZIONE	CODICE	MATERIALE	QTA	PESO kg
OGGETTO: SPINA COLLEGAMENTO TIRANTI PIN FOR TIE ROD				PESO TOT. Kg. 87.5 Cod.	
GRUPPO: BRACCIO ROTANTE ROTATING ARM		COSTRUZIONE: TURBO FORCE		SCALA 1:2.5	
SORIANI S.R.L. 45037 MELARA (Rovigo) ITALY Tel. 0425/89777 - Fax 0425/39487		QTA PEZZI 4		DATA 27/07/01	
MODIFICHE		MATERIALE		DISEGNATORE RIZIGIANI S.	
ESIC. DATA		La ditta si riserva il diritto di apportare senza preavviso tutte le modifiche al disegno.		SOSTITUISCE DIS.	
▽ 27/07/01		ALLUNGATO PART.4 DI 75mm		Disegn. Rev.	
				023.004.004 B	



Controllare la simmetria e il tensionamento degli stralli (con chiave dinamometrica) attraverso gli appositi tenditori.
M = 125 Nm

Check the correct position of the arms/stays (symmetry) and the clamping (with dynamometric spanner) of the screw coupling.
M = 125 Nm

<p>ZAMPERLA INC. 49 Fanny Road Parsippany, New Jersey 07054-6545 USA Phone: 973 334 8133 Fax: 973 334 6880</p>	Bulletin No: 2002 TB4
	Release Date: October 11, 2002
	Effective Date: October 11, 2002
	Supersedes:
	Completion Date: Immediately
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SERVICE BULLETIN



Ride Manufacturer: Soriani distributed by Zamperla	Affected Production Dates: All
Ride Name: Turbo Force	Affected Serial Nos.: All
Model Number: Turbo Force	

Abstract Of Issue:

Some pages in the instruction manual have been updated.

Reason For Release:

The installation, weekly, monthly and yearly checks have been updated.

Action To Be Taken:

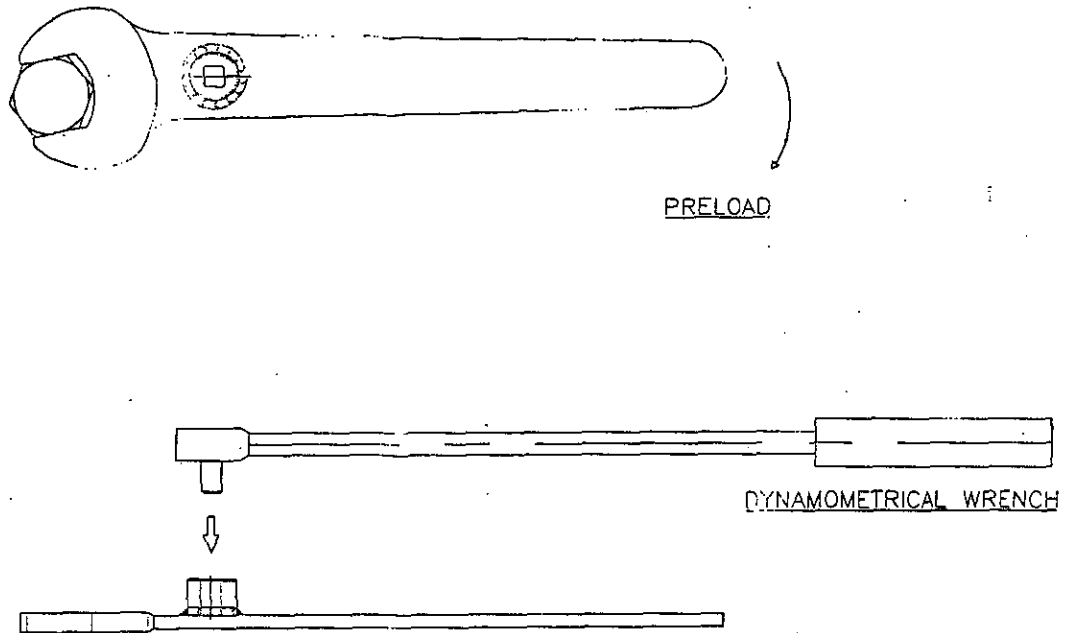
Read, understand and insert these updated pages in your instruction manual and follow them.

Detail Of Issue:

Page 25 F Section F Installation	Page 26 F Section F Installation
Page 27 F Section F Installation	Page 22 H Section H Weekly Checks
Page 23 H Section H Weekly Checks	Page 10 I Section I Monthly Checks
Page 1 J Section J Yearly Checks	

Future Action To Be Taken:

None



Utilizzando la chiave dinamometrica e l'attrezzatura speciale, tensionare con la stessa coppia di serraggio i 4 tenditori in sequenza rotatoria, dando una coppia minima di serraggio (ad esempio primo passo=35 Nm).

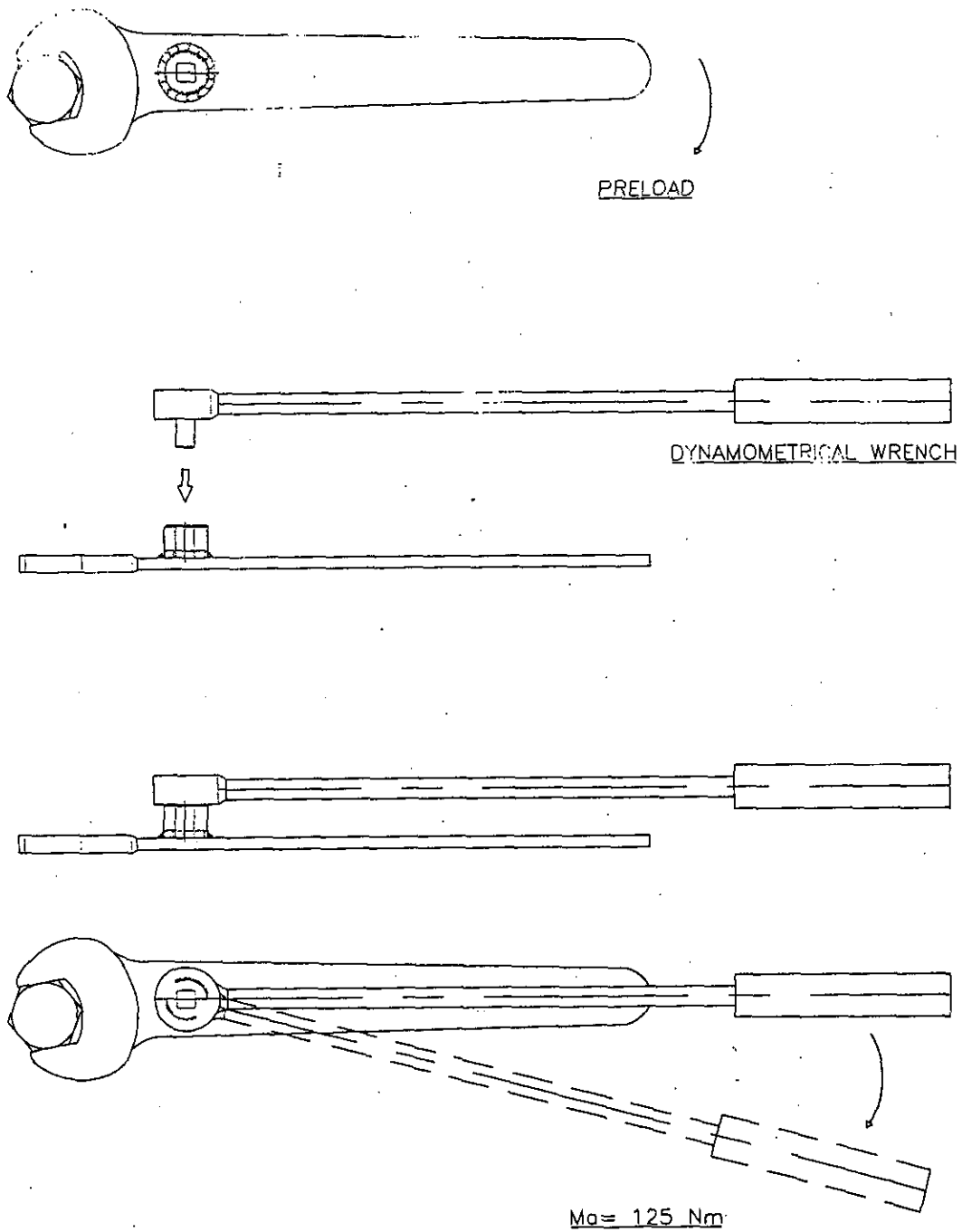
Tutti i 4 tenditori hanno una coppia di serraggio applicata di 35 Nm (PRIMO PASSO).

Utilizzare attrezzo per chiave dinamometrica di pag.26-F.

Apply with a dynamometric spanner and the special accessory, the same tightening torque (post-tensioning) on the 4 screw couplings (eye on eye). Apply the minimum clamping (for example first step=35 Nm) of the each screw coupling in a circle.

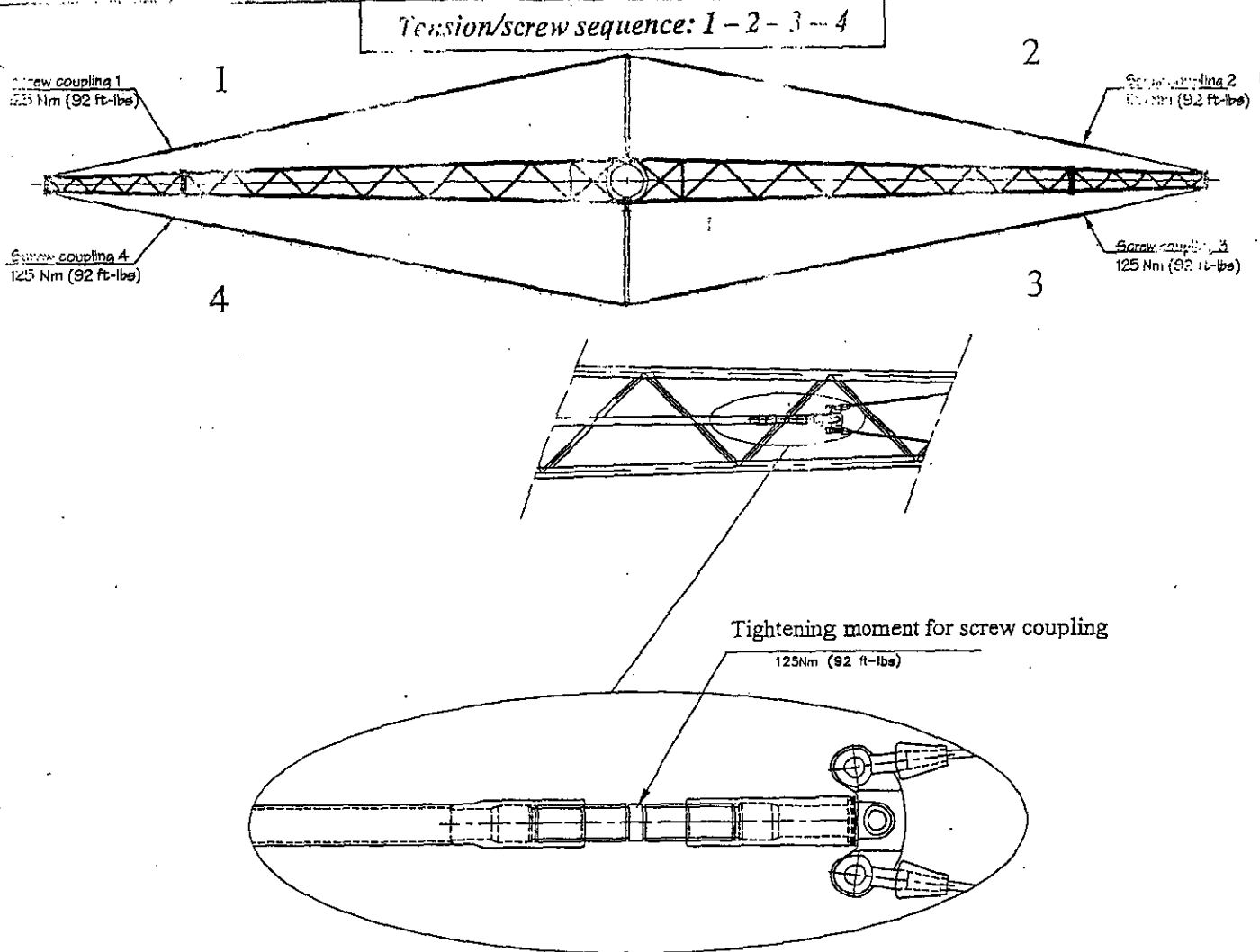
Check with a dynamometric spanner the clamping of the screw coupling of each arm stay with tightening torque equal to 35 Nm (FIRST STEP).

Apply with a special accessory for dynamometric spanner pag.26-F.



Pretensionare il tenditore utilizzando la chiave fissa (vedi pag.25-F), e successivamente dare la coppia di serraggio esatta (125 Nm) impugnando la chiave dinamometrica (vedi pag.27-F).

Apply with a normal spanner the preloading on the 4 screw coupling (see pag. 25-F) and later apply with a dynamometric spanner (to grasp a dynamometric spanner handgrip) the exactly tightening torque (125 Nm)(see pag.27-F).



Tensionare sempre i 4 tenditori in sequenza rotatoria (ad esempio 1 - 2 - 3 - 4), incrementando la coppia di serraggio da applicare a ciascun tenditore a passi di 10 Nm, arrivando così ad una coppia finale applicata a ciascun tenditore pari a 125 Nm. Nell'applicare gli incrementi di coppia, fare attenzione che i due bracci a traliccio non abbiano ingobbamenti e che gli assi rimangano in simmetria, inoltre mantenere simmetrici e perpendicolari alla botte i distanziatori.

Tension in sequence the arm stays by the screw coupling (clockwise/anticlockwise direction 1 - 2 - 3 - 4), on the 4 screw couplings to apply by step the tightening torque (with increment + 10 Nm):

35 + 10 Nm

55 Nm

65 Nm

75 Nm

...

125 Nm

last tightening moment $M = 125$ Nm on each screw coupling.

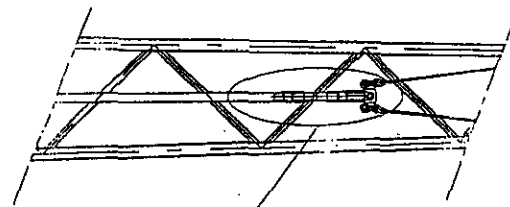
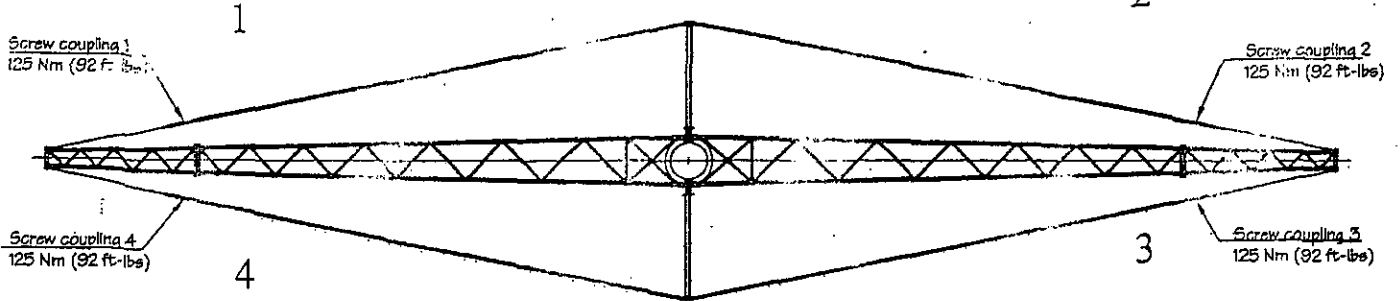
While the tensioning is being carried out:

- see that the arm is in a horizontal position and therefore perfectly aligned (SYMMETRICAL ABOUT THE CENTRE LINE).

- see that the spacing bar/hinge is in a perpendicular position on the barrel and symmetrical about the centre line.

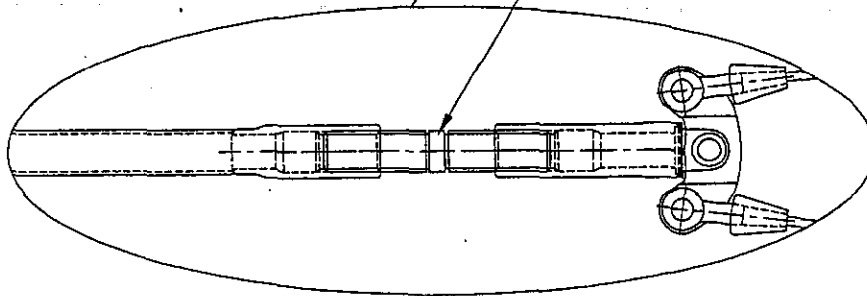
Section H - Weekly checks

Tension/screw sequence: 1 - 2 - 3 - 4



Tightening moment for screw coupling

COPPIA DI SERRAGGIO PER TENDITORE
125Nm (92 ft-lbs)



Controllare la simmetria e il tensionamento degli stralli (con chiave dinamometrica) attraverso gli appositi tenditori.

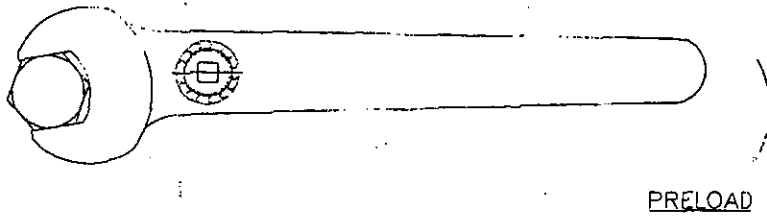
$M = 125 \text{ Nm}$

Utilizzare attrezzo per chiave dinamometrica di pag. 23-H.

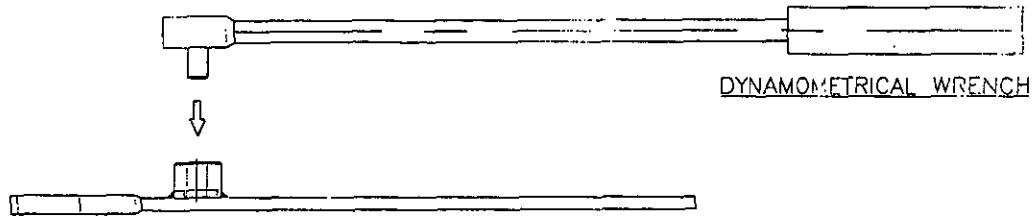
Check the correct position of the arms/stays (symmetry) and the clamping (with dynamometric spanner) of the screw coupling.

$M = 125 \text{ Nm}$

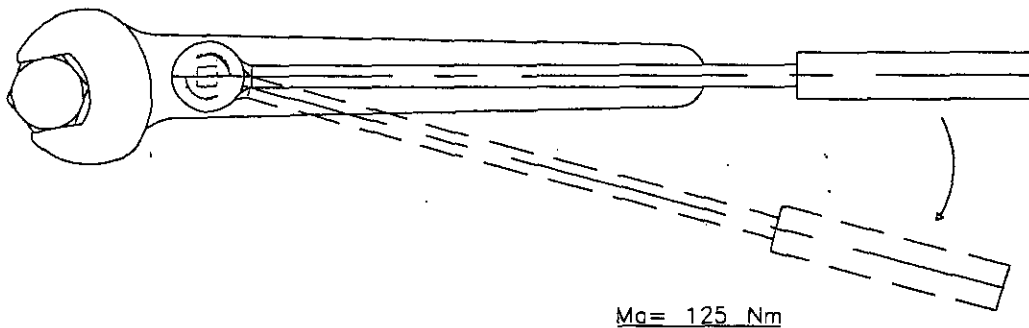
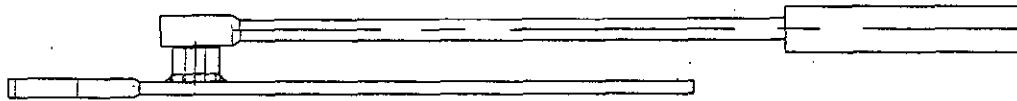
Apply with a special accessory for dynamometric spanner pag.23-F.



PRELOAD



DYNAMOMETRICAL WRENCH



$M_0 = 125 \text{ Nm}$

Pretensionare il tenditore utilizzando la chiave fissa, e successivamente dare la coppia di serraggio esatta (125 Nm) impugnando la chiave dinamometrica.

Apply with a normal spanner the preloading on the 4 screw coupling and later apply with a dynamometric spanner (to grasp a dynamometric spanner handgrip) the exactly tightening torque (125 Nm).

CONTROLLI ANNUALI (J)

Verificare l'integrità strutturale dell'intera giostra prestando particolare attenzione alle saldature di collegamento tra le parti in carpenteria ed ispezionare scrupolosamente le lamiere. Effettuare questo controllo dopo ogni mese di funzionamento.

(Vedi tabella)

YEARLY CHECKS (J)

Check the structural integrity of the ride paying particular attention to the connecting weldings between the parts in each assembly and inspect carefully the plates. This check must be carried out after every working month.
(See table)

<i>N°</i>	<i>Welding of the particular:</i>	<i>Check frequency</i>	<i>Kind of test</i>
<i>1</i>	<i>Arms</i>	<i>Yearly</i>	<i>Magnetic</i>
<i>2</i>	<i>Column</i>	<i>Yearly</i>	<i>Visual</i>
<i>3</i>	<i>Telescopic Column</i>	<i>Yearly</i>	<i>Visual</i>
<i>4</i>	<i>Semitrailer</i>	<i>Yearly</i>	<i>Visual</i>
<i>5</i>	<i>Barrel</i>	<i>Yearly</i>	<i>Visual</i>
<i>6</i>	<i>Trasmission (Reduction gear, ball bearing, etc)</i>	<i>Yearly</i>	<i>Visual</i>
<i>7</i>	<i>Stays and screw coupling</i>	<i>Yearly</i>	<i>Magnetic</i>

NOTE: see table pag. I-J

Table NDT (Non Destructive Test) list			
N°	Particular	Check frequency	Kind of test
1	<i>Arms</i>	<i>Monthly</i>	<i>Visual</i>
2	<i>Trasmission (Reduction gear, ball bearing, etc)</i>	<i>Monthly</i>	<i>Visual</i>
3	<i>Stays and screw coupling</i>	<i>Monthly</i>	<i>Visual</i>