Procedure to install the **chain redundancy kit**, part number 9369232000A, on the Crazy Bus ride

"Horizontal Motor" Version

Note: There may be some slight variations in design from ride to ride. If you encounter a problem installing this kit, please contact Zamperla at 973 334 8133. Please have the serial number of the ride available.

The kit contains all the components required to perform the installation. The kit consists of two half moon sprockets, two half moon reinforcement plates and hardware. The sprockets form a circle against the boom flange that mates to the ring gear. The reinforcement plates form a circle that bridges the joint of the sprockets. The ride must be rotated several times during the installation to allow access to the socket head bolts that secure the ring gear. These bolts are systematically replaced with the new hardware supplied in the kit. Refer to drawing 9369232000A for complete bill of material of kit.

1. Remove the ring gear covers that conceal the two rotary ring gears.
2. Remove six consecutive bolts of the ring gear and replace them with the longer M12x100 bolts, washers and nuts supplied (Fig. 1). Attach the first half moon sprocket (they are in matched sets) to these six bolts. The end of the half moon sprocket must not land concealed behind the steel of the boom. Position it so that the sprocket ends land outside this concealed space. The sprocket must rest flush against the boom flange. If there is some interference, carefully clean or grind the material away to allow a correct mating of the sprocket to the flange (Fig. 2). Tighten these bolts (do not torque to the final value) (Fig. 3).

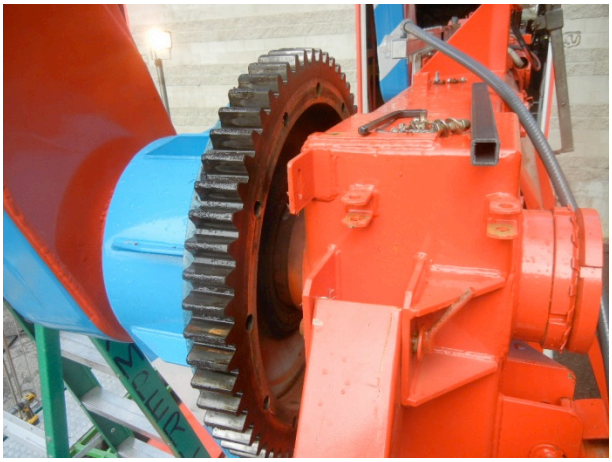


Fig. 1

Fig. 2

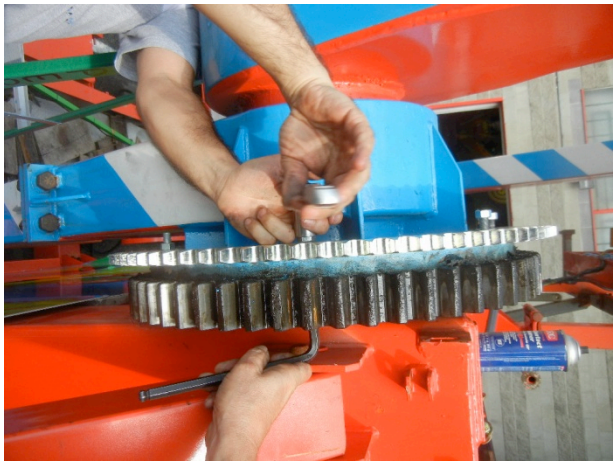


Fig. 3

Fig. 4

3. Remove the remaining six original bolts from the ring gear and replace them with the longer M12x100 bolts, washers and nuts supplied. Attach the second half moon sprocket (they are in matched sets) to these six bolts (Fig. 5, 6). The two sprockets should now form a 360 degree circle (Fig. 7). Tighten these bolts (do not torque to the final value).

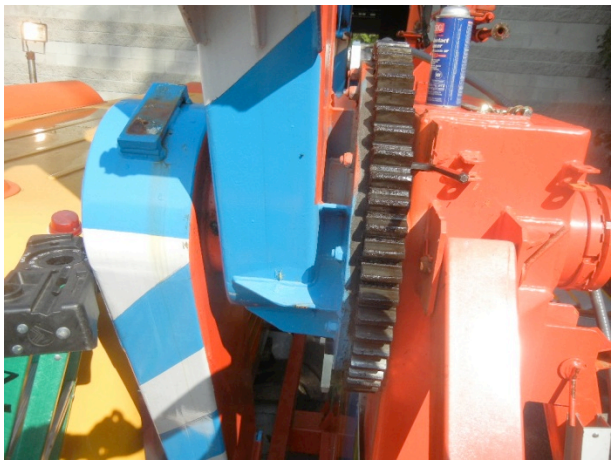


Fig. 5

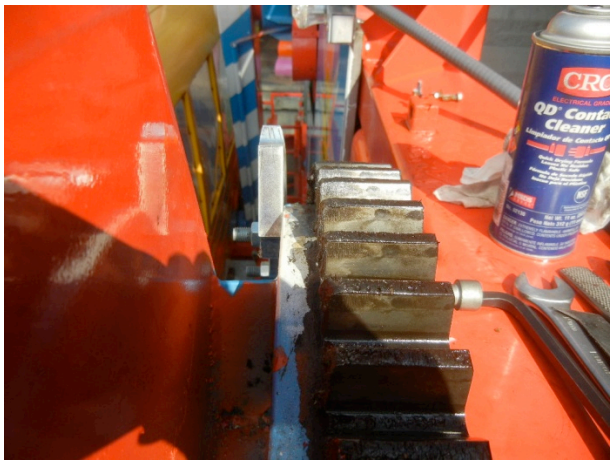


Fig. 6

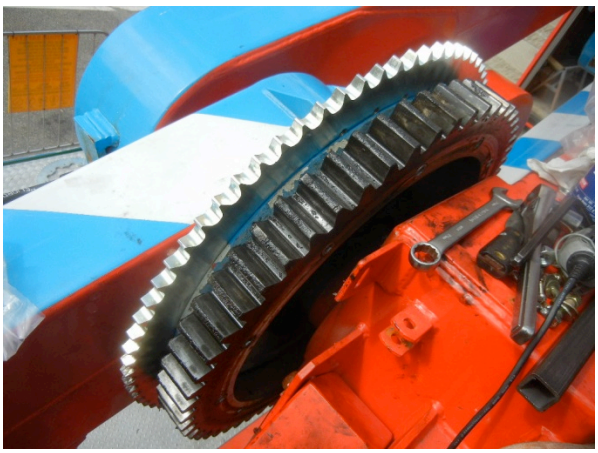


Fig. 7

4. Remove three nuts from the first half moon sprocket and three nuts from the second half moon sprocket. Install the first half moon reinforcement plate to span across the two sprocket halves (Fig. 8). Install the supplied hardware (M12x25 bolts with washers) through the holes in the reinforcement plate and into the threaded holes of the sprockets (Fig. 9). Tighten all hardware.

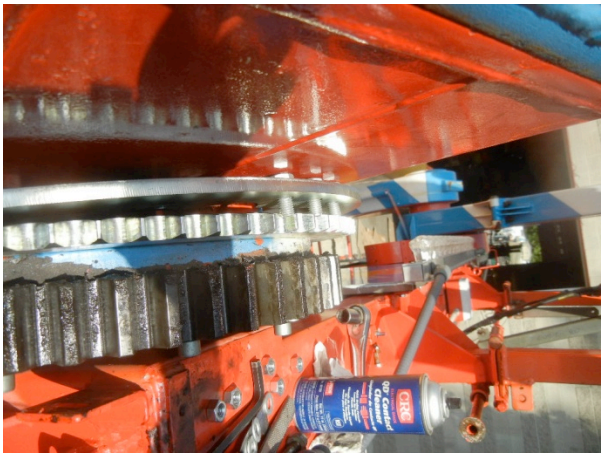


Fig. 8

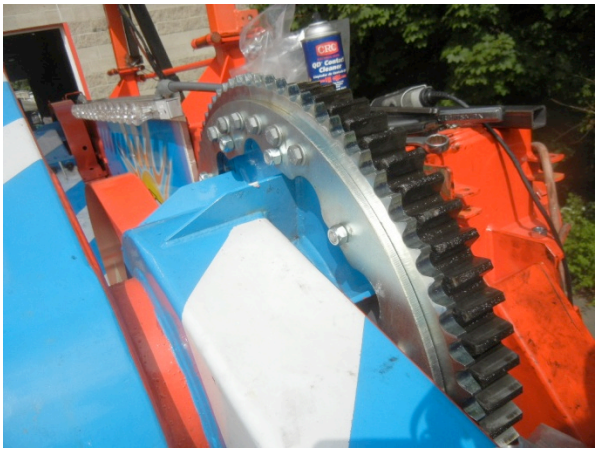


Fig. 9

5. Remove the remaining nuts and install the second half moon reinforcement plate. The two reinforcement plates should now form a 360 degree circle (Fig. 10). Tighten these bolts and nuts.

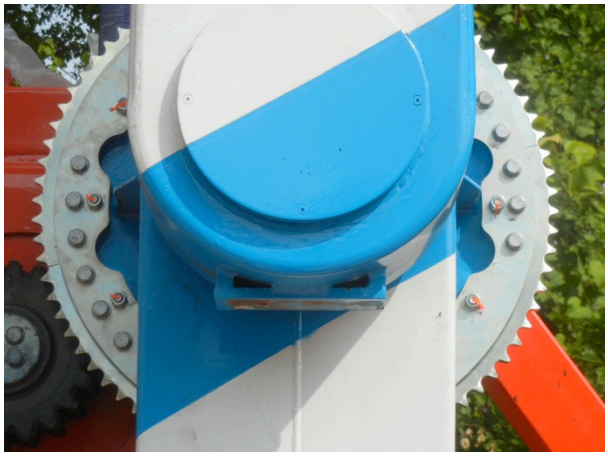


Fig. 10

6. Inspect the sprocket joints. If the joint does not meet correctly (Fig. 11), use a punch to mate the joint so that the chain will rest correctly in the teeth of the sprocket (Fig. 12, 13).

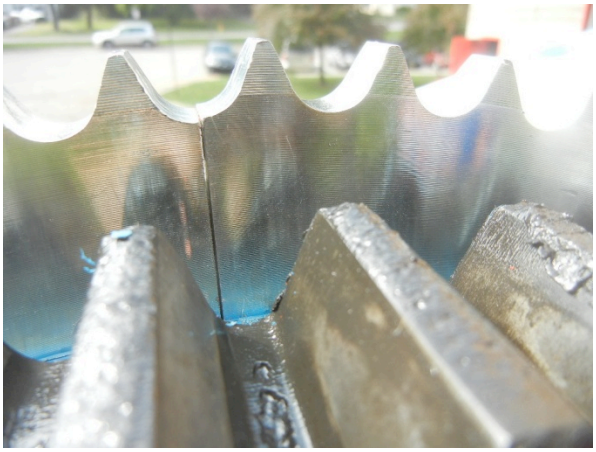


Fig. 11

Fig. 12

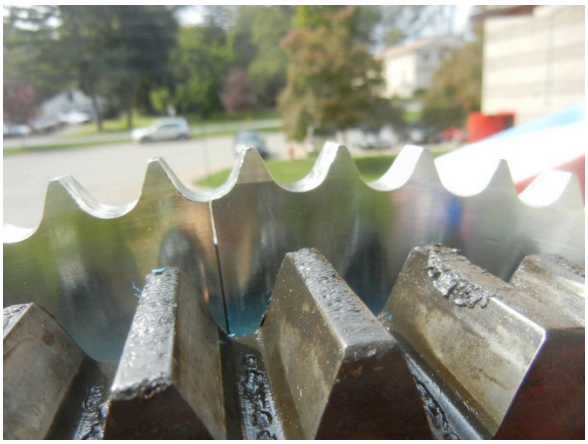


Fig. 13

7. Use a torque wrench to apply 84 NM of torque to the nuts of the sprocket (Fig. 14) and torque stripe. Snug tight the small bolts of the reinforcement plates (Fig. 15, 16).

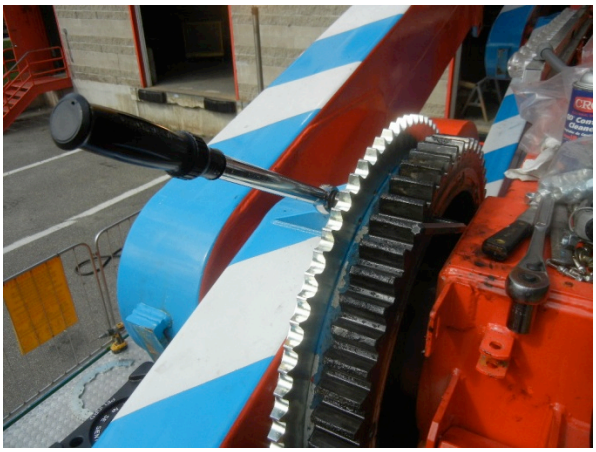


Fig. 14

Fig. 15

Fig. 16

Fig. 17

8. After performing the sprocket / reinforcement plate installation on the other boom, the chain can be installed.

9. Lay the chain over one sprocket. Push and/or pull the arms of the ride to allow a tight slack free chain tension. The chain may be joined with the full or half master link supplied with the chain. A link of the chain may be removed if necessary (Fig. 17).

10. The upper and lower chain should be aligned with little or no slack (Fig. 18, 19). Refer to View X on drawing 9369232000A for tolerance.

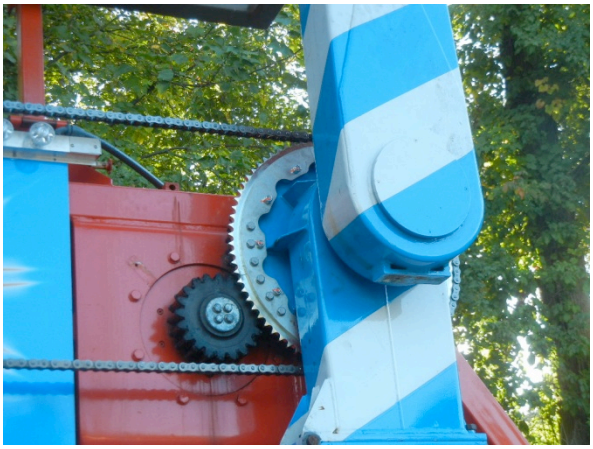


Fig. 18

Fig. 19

11. Install the chain tensioner. Refer to Chain Tensioner Installation Procedure to properly install the chain tensioner.

12. Inspect the counterweight hinge pin to ensure that it will clear the chain when the boom is rotated (Fig. 20). If required, cut, grind or re-drill the arc clip hole to provide adequate clearance between the hinge pin and chain (Fig. 21, 22, 23).

Fig. 20

Fig. 21

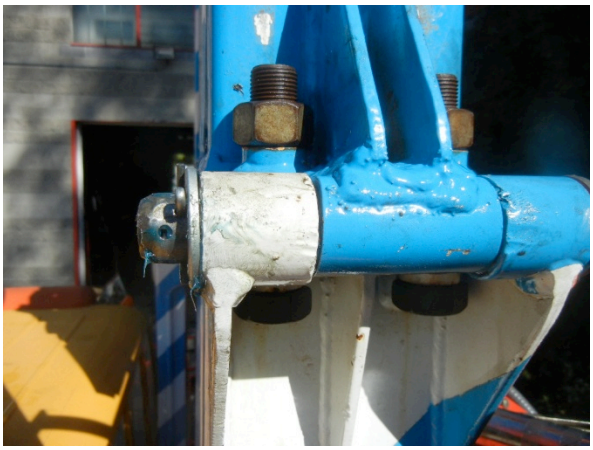


Fig. 22

Fig. 23

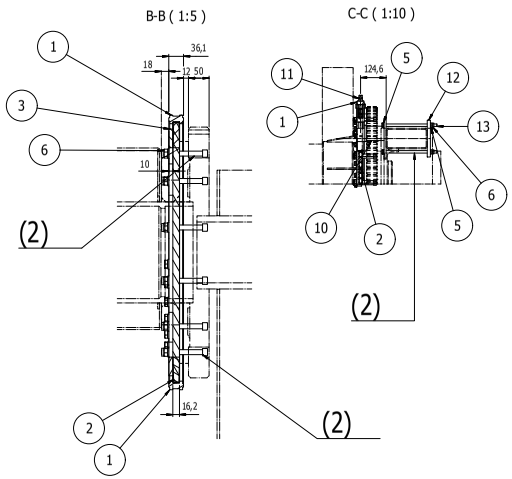
13. Apply good quality chain grease to the chain.

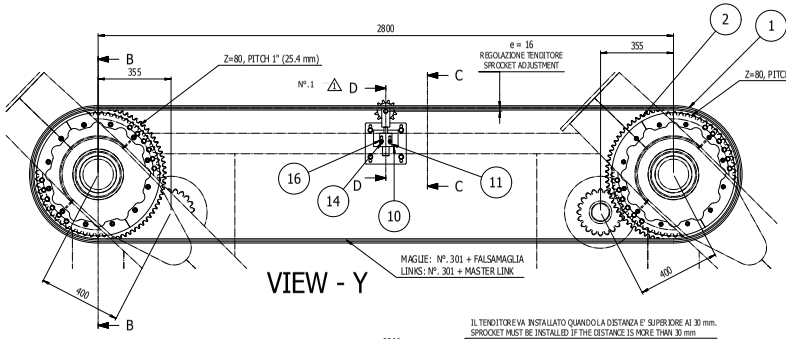
14. The ring gear covers may be discarded or modified to be reinstalled. You will need to custom cut and fit them for remounting.

15. Test the ride slowly at first increasing speed to normal operating speed (Fig24).

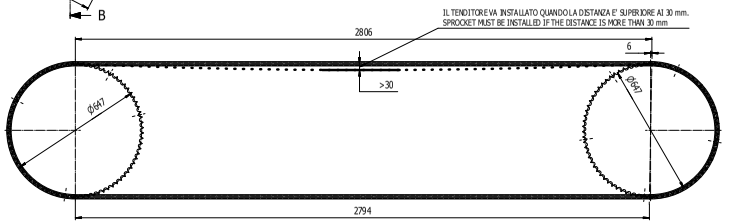
Fig. 24

NOTE: THE ABOVE PHOTOS ARE FOR GENERAL REFERENCE ONLY. DEPENDING ON YOUR MODEL, THE INSTALLATION MAY VARY FROM THE ABOVE PHOTOS.





VIEW - Y



VIEW - X

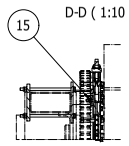
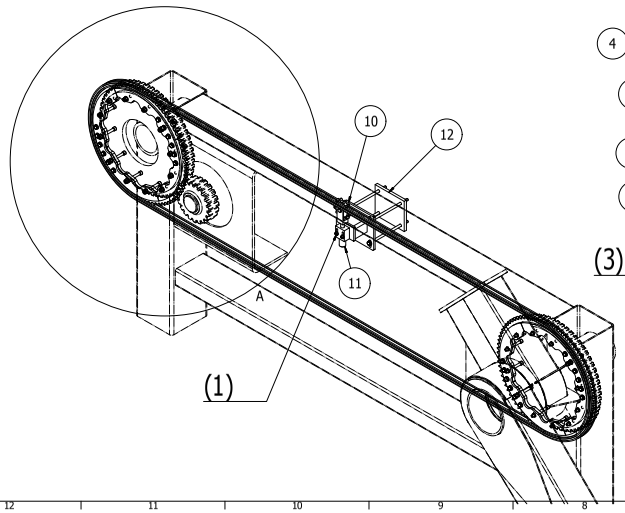
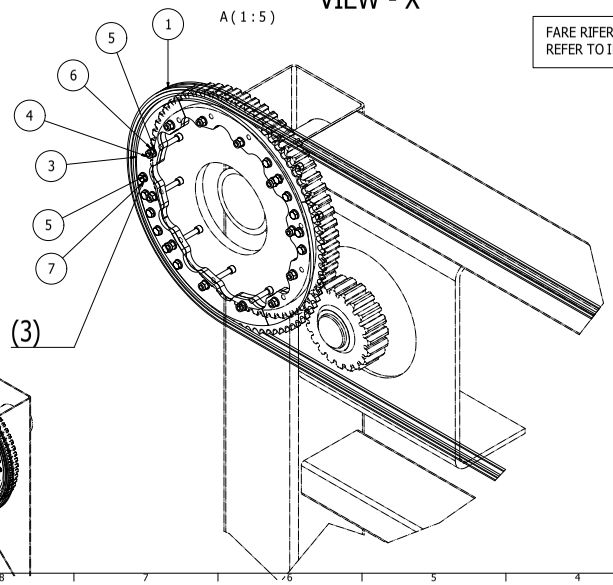


TABELLA COPPIA SERRAGGIO TORQUE TABLE				
RIFERIMENTO REFERENCE TO	COPPIA TORQUE A		COPPIA TORQUE B	
	VITERIA NON LUBRIFIC. COEFF. ATTRITO= 0,14 FRICTION COEF.= 0,14		VITERIA LUBRIFICATA COEFF. ATTRITO= 0,10 NON LUBRICATED BOLTS FRICTION COEF.= 0,14	
	N m	lbf ft	N m	lbf ft
1	25	18	18	13
2	84	62	61	45
3	56	41.3	40	20.5
IL PRODOTTO USATO PER LA LUBRIFICAZIONE DELLE VITI E' PASTA "MOLYKOTE HSC" LUBRICATING PRODUCT: "MOLYCOTE HSC" PASTE				





FARE RIFERIMENTO ALA PROCEDURA DI INSTALLAZIONE PER L'ASSEMBLAGGIO.
REFER TO INSTALLATION PROCEDURE FOR PROPER ASSEMBLY.

N°.1 ⚠ AGGIUNTO SISTEMA TENDICATENA (OTT_2013_LM)
ADDED KIT CHAIN TENSIONER (OTT_2013_LM)

Pos	Q.ty	Codice / Code	Rev.	Descrizione	Description	Mass Kg
16	4	1.070917		ROSETTA D. 8.4x17x1.6 - 140HV UNI6592	PLAIN WASHER	0
15	2	1.070814		DADO AUTOBL. M8 NORM. - 8 UNI7473	SELF LOCKING HEX. NUT	0
14	2	10.701605		VITE TCCE M8x70 - 8.8 UNI5931	HEX. SOCKET SET SCREW	0
13	4	10.701.8494		VITE TE M12x260 - 8.8 UNI5737	HEX. HEAD SCREW	0,2
12	1	9369.23.2004	A	PIASTRA FISSAGGIO	FIXING PLATE	4,2
11	1	1.0501801.890	A	TENDICAT. TENBLOC TBB-RR40 (1"X17.02)	SPROCKET TENBLOC TBB-RR40 (1"X17.02)	1
10	1	9369.23.2003	A	SUPPORTO TENDICATENA	CHAIN THIGHTENER SUPPORT	4,6
9	2	00.501.42.45		FALSA MAGLIA CATENA ISO 16B-1 1"X17,02 SEMPL	DUMMY JERSEY CHAIN ISO 16B-1 1"X17,02 SIMPL	0
8	1	00.501.42.42		GIUNTO CATENA ISO 16B-1 1"X17,02 SEMPLICE	JOINT CHAIN ISO 16B-1 1"X17,02 SIMPLE	0
7	24	1.070.162		VITE TE M12x25 - 8.8 UNI5739	HEX. HEAD SCREW	0
6	28	1.070.840		DADO AUTOBL. M12 NORM. - 8 UNI7473	SELF LOCKING HEX. NUT	0
5	56	1.070.922		ROSETTA D. 13x24x2.5 - 140HV UNI6592	PLAIN WASHER	0
4	24	1.070.410		VITE TCCE M12x100 - 8.8 UNI5931	HEX. SOCKET SET SCREW	0,1
3	4	9369.23.2001	A	SPESSORE RINFORZO	REINFORCEMENT PLATE	3,8
2	4	9369.23.2002	A	LAVORAZIONE CORONA SINGOLA 1"-17,02 Z=80	MACHINED GEAR CROWN SINGLE CHAIN 1"-17,02 Z=80	7,8
1	1	00.501.42.41		CATENA ISO 16B-1 1"X17,02 SIMP	ROLLER CHAIN ISO 16B-1 1"X17,02 SIMPLE	86,6

"IL PRESENTE DISEGNO E' COPERTO DA DIRITTI DI PROPRIETA' INDUSTRIALE E DI COPYRIGHT. NON PUO' ESSERE COPIATO, RIPRODOTTO, COMUNICATO O DIVULGATO A TERZI, CHIUNQUE E QUALUNQUE SIA, SENZA IL PREVENTIVO CONSENSO SCRITTO DELLA DITTA ZAMPERLA. IN CASO DI VIOLAZIONE SARA' PERSEGUITO A NORMA DI LEGGE. THIS DRAWING IS THE PROPERTY OF ZAMPERLA S.r.l. AND MAY NOT BE COPIED, REPRODUCED OR DISCLOSED TO THIRD PARTIES WITHOUT THE PRIOR WRITTEN CONSENT OF ZAMPERLA S.r.l. ANY INFRINGEMENT WILL BE PROSECUTED ACCORDING TO LAW. ALL RIGHTS RESERVED. COPYRIGHT ZAMPERLA S.r.l.

ZAMPERLA
S.p.A. Via Vicenza, 31 - I - 36077 ALTAVILLA VICENTINA (VI) - ITALIA
Tel. +39 0444 396400 - Fax +39 0444 572726
http://www.zamperla.com - http://www.zamperlausa.com

Data: Date:	09/11/2011		
Firma: Signature:	LM		
Disegnato / Drawn		Controllato / Checked	Approvato / Approved

Macchina: Assembly machine:	CRAZY BUS				
Gruppo: Unit:	TRASMISSIONE TRASMISSION				
Denominazione: Name:	ASSIEME MONTAGGIO KIT CATENE CHAINS SYSTEM KIT ASSEMBLY		Materiale: Material:	Peso - Unit:	148.76 kg
N° disegno: drawing Nr:	9369232000A	Mod.: Mod.: 1	Foglio: Sheet: 1 di 1	Scala: Scale: 1:10	Proiezione: Projection: Formato: Format: A1