SURGICAL C-ARM TABLE

INSTALLATION/ OPERATION MANUAL

058-840 058-845





SURGICAL C-ARM TABLE



This manual covers installation and operation procedures for the following products:

#058-840 Table, Surgical C-Arm - 840, 115 VAC #058-845 Table, Surgical C-Arm - 840, 230 VAC

DEFINITION OF SYMBOLS

The following symbols and their associated definitions are used and implied throughout this manual.

Symbol	Definition
	Carefully read these instructions prior to use
\triangle	Caution
\triangle	General Warning
0	General Mandatory Action
4	Dangerous Voltage
•	"On" Power
0	"Off" Power
<u>_</u>	Earth (ground)
\sim	Alternating Current
-	Fuse
•••	USB Connector/Cable
	Waste in Electrical Equipment
M	Date of Manufacture
_	Type B Applied Part
CE	CE Mark
CEO413	CE Mark for products with EC Certificate
c Linestek	Certified for Safety by ETL Intertek

SURGICAL C-ARM TABLE

INTRODUCTION

The Surgical C-Arm Table 840 is designed for image-guided procedures where stability, access, and precise, quiet, vibration-free positioning are essential. A cantilevered low attenuation carbon fiber tabletop, with choice of contoured or rectangular design, accommodates portable or ceiling-suspended C-Arms. The contoured top provides ample workspace for anesthesiologists, yet the narrowness required for cervical procedures. The NEW rectangular top offers additional space to allow for superior image quality for long-leg runoff studies. Choose the top that best suits your needs to achieve optimum image resolution.

The extra-large radiolucent area, free-float X-Y tabletop, motorized control of height, lateral roll, Trendelenburg motions and the catheter tray extension make the Surgical C-Arm Table - 840 ideal for cardiovascular procedures. The radiolucent area is free of cross members, allowing full fluoroscopic visualization and unobstructed C-Arm positioning. Functional design provides complete access with reduced radiation exposure to clinicians. Patient comfort and stability are assured by two-inch thick table padding and three adjustable straps with hook and loop fastening. The contoured tabletop features a face cutout for prone positioning.

Control Made Easy

The portable hand-held and foot operated controllers ensure quick and safe tabletop positioning, and can be positioned from any point around the table. Both controllers offer the freedom to adjust height, lateral roll and Trendelenburg motions. The hand-held controller provides the back to level function. The foot-operated controller also releases the tabletop for X-Y positioning and is ideal when hands are busy with other functions.

Free-Float Feature

A push-button release for the free-float feature is located at the end of a handgrip. When employing any degree of tilt or roll, X and Y positions are "locked" to prevent gravity induced X or Y motion. Selective "lockout" of X or Y movement is also provided: head-to-toe (X) float can be maintained during lateral roll; side-to-side (Y) float can be maintained during Trendelenburg positioning.

Both AC and battery power are standard. When operating on battery, there are no power cords to catch on feet or block table wheels. Battery charging can be accomplished during off hours by plugging in the AC power cord. An optional battery with separate charging unit can provide continuous cordless operation.



IMPORTANT NOTE: Remove battery if storing table for prolonged time.



IMPORTANT NOTE: Lever le batterie si le table se garder en reserve por temps prolongement.

NOTE: The 840 tabletop is made of carbon fiber. This material, as used in this product, is certified to meet all the requirements of radiation performance standards of 21 CFR Subchapter J.



Figure 1. Parts and adjustment mechanisms.

- 1. Hand-Held Controller
- 2. Foot Controller
- 3. Free-Float X-Y Tabletop Release Button
- 4. Foot End Locking Brakes and Swivel Casters
- 5. Battery Pack
- 6. Front End Caster Brake Locking Bar

OPERATING INSTRUCTIONS



CAUTION: Refer to instruction manual before operating or servicing system.



ATTENTION: Se référer à la notice d'utilisation avant d'utiliser l'equipement.

NOTE: This table can be operated with the power cord connected to an outlet or by using the battery. The battery recharges automatically while the table is plugged into an outlet even if the table is being used.

NOTA: Cette table fonctionne avec le cordon d'alimentation branché sur une prise ou à l'aide de la batterie. La batterie se recharge automatiquement lorsque le cordon est branché sur une prise, m'ime si la table est en cours d'utilisation.



CAUTION: Hospital grade plug to be plugged into a hospital grade receptacle only to achieve grounding reliability.



ATTENTION: La fiche de qualité húpital ne doit Ítre branchÈe que sur une prise de courant de qualité hÚpital, pour une mise á la terre fiable.



CAUTION: Before transferring a patient onto or off the table, ensure all four caster brakes are locked. Secure the restraining straps immediately after positioning the patient on the table.



ATTENTION: Avant le transfert du patient sur la table ou hors de la table, síassurer que les quatre freins des roulettes sont bloqués. Fixer les lanières díimmobilisation dès quíon a positionné le patient sur la table.



CAUTION: The restraining straps are not intended to restrain an uncontrolled patient.



ATTENTION: Les laniéres d'immobilisation n'ont pas pour objet l'immobilisation d'un patient hors de contrúle.

The Locking Brakes and Swivel Casters (See Figure 2.)

The locking brakes and swivel casters allow this table to glide effortlessly on hard surfaces and across firm rugs. The foot end casters are locked from either side of the table while the head end casters are locked together using the Caster Brake Locking Bar.

- To release the lock on the brakes and swivel casters at the foot end of the table, use your toe to lift up on the foot end caster brake locking lever on either side of the table.
- To lock the foot end brakes and swivel casters, step down on the foot end caster brake locking lever on either side of the table.
- To lock the brakes and swivel casters for the head end of the table, use your toe to press down on the head end caster brake locking bar.
- 4. To release the head end brake and swivel casters, use your toe to lift up on the head end caster brake locking bar.

NOTE: The head end caster brake locking bar, when pressed down in the lock position, raises the head end casters slightly off the ground. The amount that casters are raised can be adjusted by simply using a 5/8" open-end wrench to adjust up or down the support foot located under the head end caster brake locking bar.

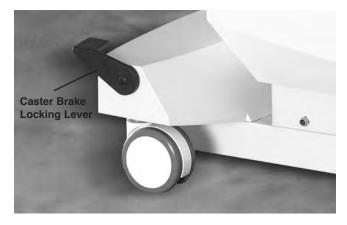


Figure 2. Locking brakes and swivel casters.

Using the Hand-Held Controller

The hand-held controller may be used to adjust table height, Trendelenburg/Reverse Trendelenburg, lateral roll and X-Y positioning. When not in use, the Hand-Held Controller can be hooked onto the metal loop on the restraining strap, or on the accessory rail.



CAUTION: Before moving the tabletop, be sure that all I.V. lines, attachments and restraining straps, etc., are out of the way. Ensure the patient is fully secured to the tabletop by the restraining straps.



ATTENTION: Avant tout déplacement du dossier, veiller à en dégager les lignes de goutte-á-goutte intravéneux, les accessoires, les laniéres d'immobilisation, etc. S'assurer que le patient est solidement fixé au dossier à l'aide des laniéres d'immobilisation.

To adjust the table position, press and hold the appropriate switch on the hand-held controller. The tabletop will move or rotate in the direction indicated by the switch. Release the switch when the tabletop achieves the desired position.

Motorized Note for Hand-Held and Foot Controllers

NOTE: The table can perform only one motorized function (i.e. raising or lowering the tabletop, lateral roll, X-Y movement, Trendelenburg/Reverse Trendelenburg) at a time. If you press a second button on the Hand-Held Controller (or the Foot Controller) while the table is already performing a motorized function the tabletop movement will stop. At that point, you will need to release all buttons before you can resume the selected function.

NOTA: La table ne peut exécuter quíun seul déplacement motorisé à la fois (p. ex.: élévation ou abaissement du dossier, rotation à gauche ou à droite sur líaxe longitudinal, déplacement le long des axes X et Y, position de Trendelenburg / position de Trendelenburg inversée). Le fait díappuyer sur un second bouton de la commande à main (ou sur une seconde pédale) en cours de déplacement de líappareil provoque líarrít du mouvement du dossier. Il faut alors rel,cher tous les boutons avant de reprendre la fonction choisie.

Using the Foot Controller

The Foot Controller activates all motions. The four separate rocker style pedals control two movements each. From left to right on the Foot Control, press and hold down the appropriate rocker switch to adjust Trendelenburg/Reverse Trendelenburg positioning, lateral roll, tabletop height, and X-Y motion. Releasing the rocker switch at any time immediately stops the motion.

NOTE: When the table is used in a wet environment, it is recommended that the Foot Controller be covered with a plastic bag and sealed as watertight as possible.

Positioning The X-Y Free-Float Tabletop (See Figure 3.)

The X-Y free-float tabletop is positioned using the black tabletop handgrips. The handgrip has a push button that, when depressed, allows the table to move in both the X and Y planes. To move the tabletop, depress the push button on the handgrip and, using both handgrips, slide the tabletop to the desired position. Release the button to lock the tabletop in place.

The tabletop handgrips may be positioned at any point along the accessory rail. You can position the grips in either a horizontal or vertical plane. To position the grips, loosen the handgrip locking knob, slide the grip to the desired position along the accessory rail, then tighten the locking knob to secure the grip.

NOTE: The X-Y Free-Float Tabletop Release Button will not allow the tabletop to "float" if the table is tilted with lateral roll.



Figure 3. Push button (on handle) releases tabletop for freefloat X-Y motion.

Disposable Skirt

(See Figure 4.)

The Biodex Surgical C-Arm Table comes supplied with Plastic Sanitary Skirts to protect the table bellows from patient blood, liquids, etc. The table is encircled by a magnetic-backed rubber strip, located immediately above the bellows. Secure the skirt to the bellows as described.

- Lift the lower section of the strip on each side of the table.
- Slide the plastic skirt underneath the strip at the foot end of the table, then lower the strip to hold the skirt in place.
- Work around the table, tucking the top edge of the plastic skirt under each strip and lowering the strip to secure the plastic until the bellows are completely unwrapped. Be sure to overlap the skirt across the entire length of the table's foot end.
- 4. Remove and replace the plastic skirt for each new patient.

NOTE: Additional Bellows Skirts (part #056-802) can be ordered from Biodex Medical Systems, Inc.



Figure 4. Lift the lower section of the strip on each side of the table, slide the plastic skirt underneath and lower the strip to hold the skirt in place.

Catheter Tray Extension

(See Figure 5.)

The removable extension can be used to provide additional table length for accommodation of catheters within the patient's sterile field. This makes the procedure easier, safer and reduces the risk of breaking the sterility of the catheters.



CAUTION: The Catheter Extension is not radiolucent and not suitable for patient support.



ATTENTION: Léxtension du Cathéter nést pas radiotransparent et ne pas convenable por supporte an patient.

To attach the Catheter Tray Extension, simply hook the Extension guides over the accessory rails at the foot end of the table and lower the extension into position.



Figure 5. Catheter Extension.

I.V. Pole (Optional)

The adjustable height I.V. pole should be installed onto the O.R. accessory rail. Loosen the I.V. pole locking knob at the base of the slide block and slide the block and pole onto the accessory rail until it is in the desired position. Tighten the locking knob to secure the pole.

To adjust the height of the I.V. pole, loosen the height adjustment locking knob and raise or lower the top section of the pole to the appropriate height. Tighten the locking knob to secure.

Charging The Battery

This table can be operated with the power cord connected to an outlet or by using the battery. The battery recharges automatically while the table is plugged into an outlet even if the table is being used. An optional wall-mounted battery charger is also available.

NOTE: The table must remain plugged into an outlet when the battery is removed or reinstalled. If you remove the battery for any reason while the table is not plugged into a working outlet, the battery will discharge at a faster rate. Once the battery has been reinstalled, and you have verified that the table is operating, you may remove the power cord plug from the outlet and operate on battery power.



SAFETY GUIDELINES

 Secure restraining straps immediately after placing the patient on the table. The restraining straps prevent the patient from rolling off the side of the table.

NOTE: The restraining straps are not intended to restrain an uncontrolled patient.

- Always lock the casters before moving a patient onto or off the table.
- This table is rated to support patients weighing up to a maximum of 500 pounds.



CONSIGNES DE SECURITE

1. Fixer les lanières d'immobilisation et les lanières de cheville immédiatement après avoir placé le patient sur la table. Les lanières de cheville emplchent le patient de glisser sous la table en position de Trendelenburg. Les lanières d'immobilisation emplchent le patient de rouler par-dessus le cúté de la table.

NOTA: Les lanières d'immobilisation n'ont pas pour objet l'immobilisation d'un patient hors de contrule.

- 2. Toujours bloquer les roulettes avant de faire monter le patient sur la table ou de l'ien faire descendre.
- 3. La table est certifiée comme pouvant supporter un patient pesant au plus 227 kg (500 lb).

MAINTENANCE AND CLEANING

The Biodex Surgical C-Arm Table is virtually maintenance free. By following the instructions below at suggested time intervals, or as often as necessary, your table will remain in "like new" condition.

- 1. As required, clean all exterior painted surfaces, tabletop and restraining straps with a mild detergent solution.
- Wheels and wheel locks should remain free of foreign materials and dirt accumulation. Keeping wheel assemblies free of this matter will ensure smooth table transportation and free lock/unlock wheel operation.



CAUTION: Disconnect power from source before removing panel or covers. Reliable grounding achieved only by connecting this unit to an equivalent marked hospital only or hospital grade receptacle.



ATTENTION: Déconnector la prise secteur avant d'ouvrir le coffret. Une terre fiable ne peut étre obtenue que par la connexion à une prise secteur de qualité hospitalière.

SPECIFICATIONS

Dimensions: 104" | x 26" w (260 x 66 cm) with OR

accessory rails

Tabletop: 101" | x 24" w (252 x 61 cm)

Catheter Tray Extension (removable): 18" | x 24" w

(45.7 x 61 cm) non-radiolucent

Radiolucent Area:

51" I x 24" w (128 x 61 cm) unobstructed head to

accessory rail

20" l x 17.5" w (50.8 x 44 cm) additional,

between accessory rails

Radiolucent Area, Total Length: 71" | (178 cm)

Tabletop Material: Carbon fiber with integral head section

Mattress: Seamless, 2" thick (5 cm)

Attenuation:

Tabletop: .7 mm Aluminum equivalence **Mattress:** .5 mm Aluminum equivalence

Motions:

Height Adjustable: 33.5" to 43.5" (84 to 109 cm)
Tabletop X Motion (head-to-toe float): 20" (51 cm)
Tabletop Y Motion (side-to-side float): 10" (25.4 cm)

Trendelenburg: 0° to 20°

Reverse Trendelenburg: 0° to 20°

Lateral Roll: 0° to 20°

Controls:

Hand Control: height, lateral roll and

Trendelenburg motions

Foot Control: activates all motions

(has release for float)

Push Button: releases X-Y Tabletop motions

Wheels:

Head End – 3" (7.62 cm) swivel casters, integral locking

system on base

Foot End - 5" (12.7 cm) swivel casters with central

locking

Accessory Rails: Standard OR accessory rails

49.5" x 1.12" x .375" (124 x 2.86 x .95 cm) mounted near

foot end of table

Patient Restraints: Three body straps

Finish: Powder coat

Patient Capacity: 500 lb (227 kg); weight tested to four

times the patient load rating.

Lift Capacity: May vary between 460 lb - 500 lb

(209 - 227 kg) based on line voltage

Power: 115 VAC or 230 VAC and Battery. Battery automatically charges when table is plugged in. An additional battery can be charged with optional wall-mounted charger.

Standard Accessory:

Catheter Tray Extension (removable)

- Bellows Skirt (disposable, 250/roll) and dispenser

Warranty: Two years

Certifications: ETL and cETL Listed to UL-60601-1°, CAN/CSA° C22.2 No.: 601-1-M90. EN 60601-1 and

IEC 60601-1-2, CE MARKED

OPTIONAL

056-862 Battery and Charging Unit, 115 VAC

056-863 Battery and Charging Unit, 230 VAC

056-850 IV Pole, Rail Mounted

056-865 Arm Board, Carbon Fiber, one arm 056-866 Arm Board, Carbon Fiber, two arms

058-864 Arm Board, Surgical, Carbon Fiber

058-849 Clamp, Accessory, C-Arm Table

058-856 Radiation Shield, Head/Cervical

058-857 Radiation Shield. Thoracic/AB

REPLACEMENT

056-802 Bellows Skirt, disposable plastic, 250/roll Fits Surgical C-Arm Tables 840, 800,

810 and 820

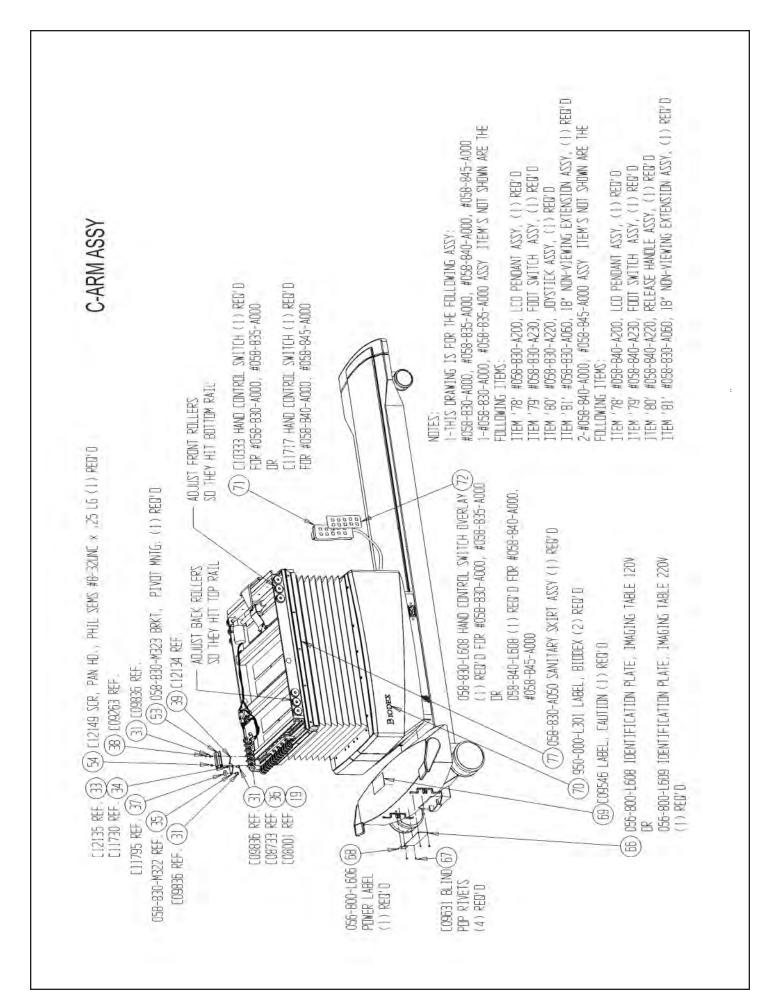


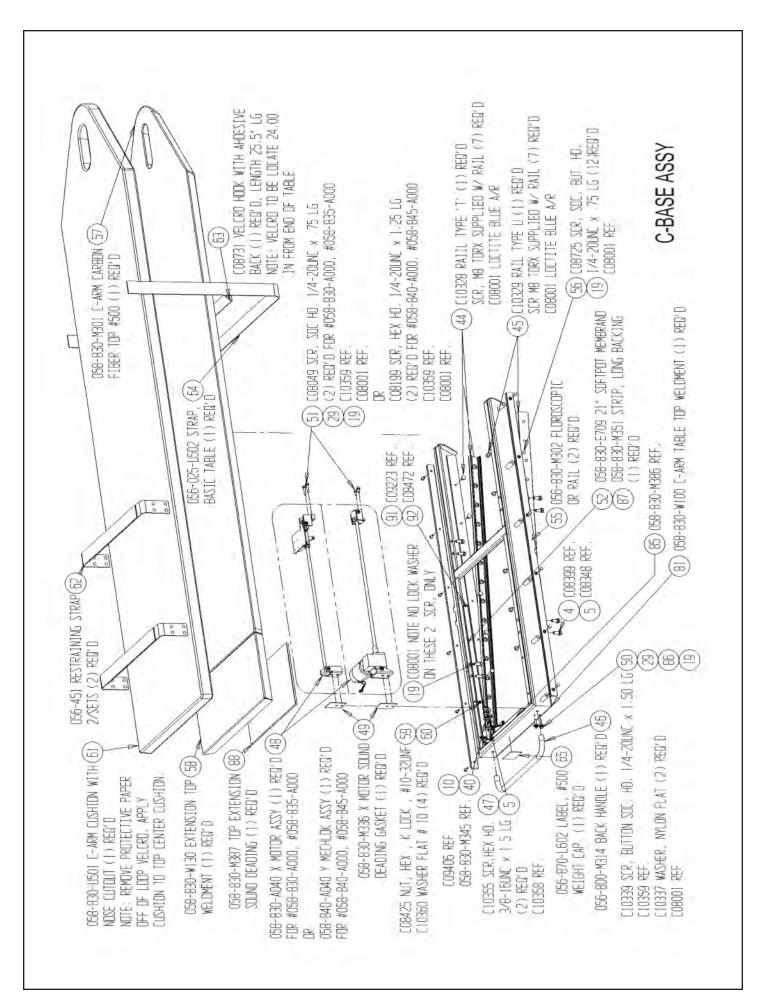
Authorized European Community Representative:

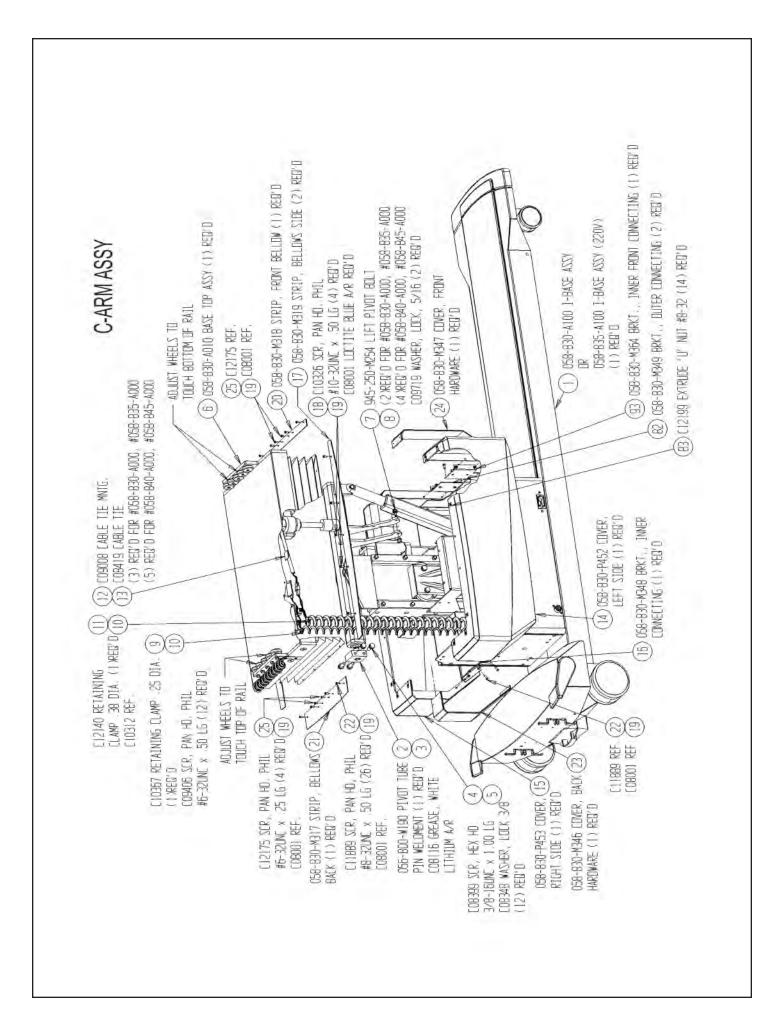


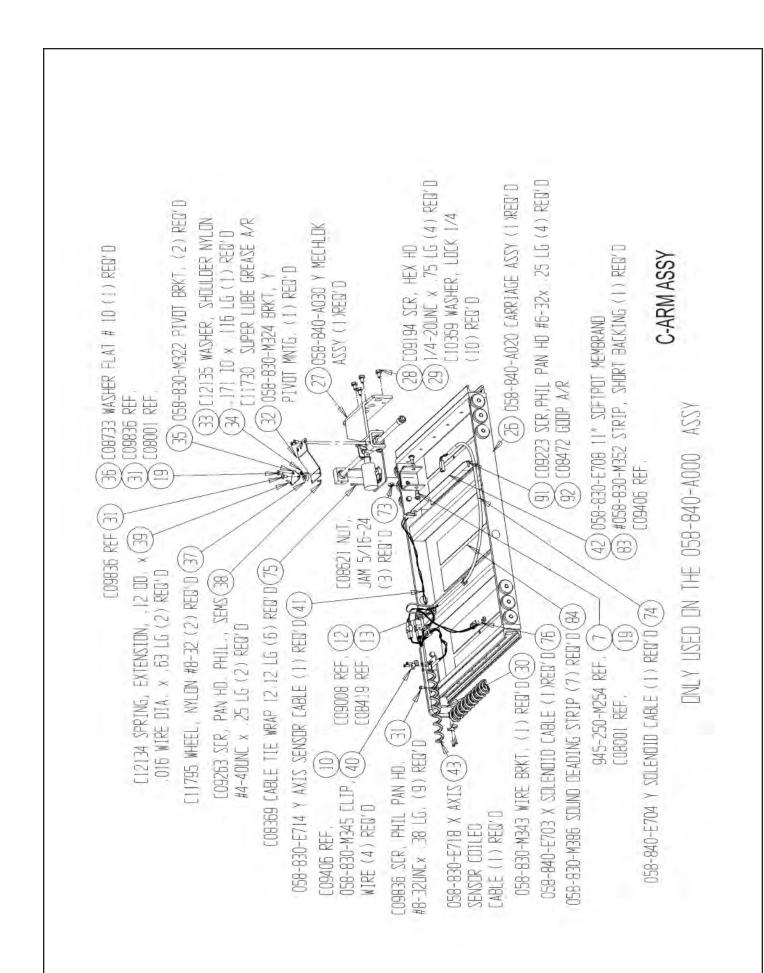
Emergo Europe Molenstraat 15 2513 BH, The Hague The Netherlands

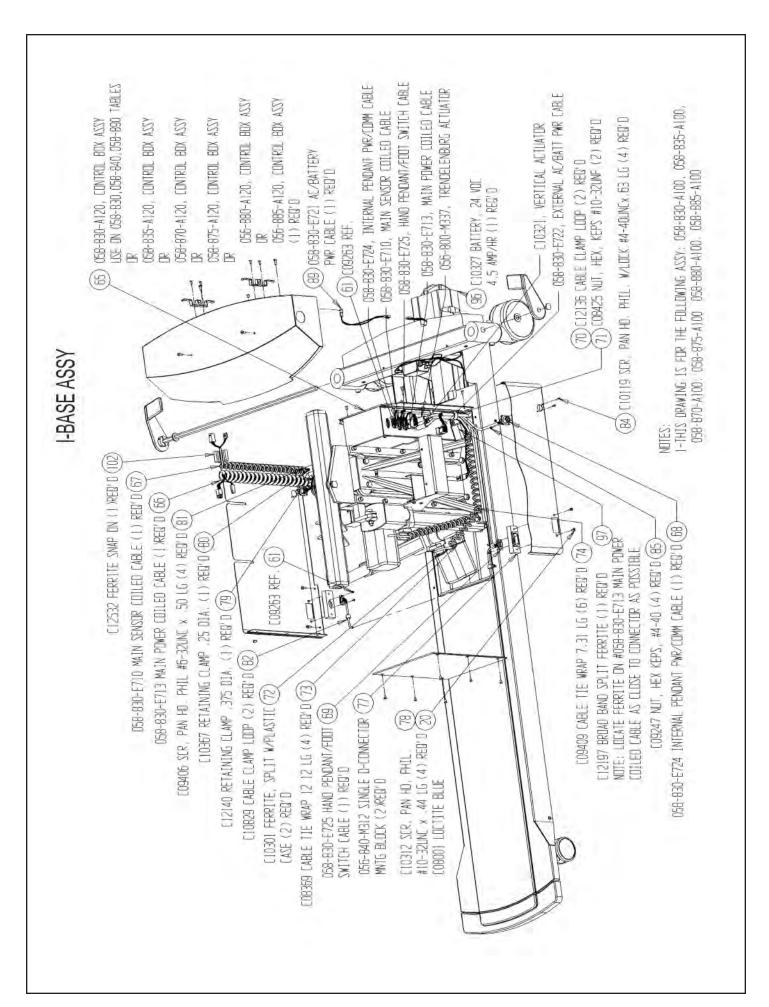
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Limits	Class A	-	4%	3%	.2 sec	1.00	.65	no degradation of performance	no degradation of performance	no degradation of performance	no degradation of performance	no degradation of performance	no degradation of performance	no degradation of performance	no degradation of periormance	no degradation of performance	66/56/60 dbuV QP 56/46/50 dbuV AV	30/37 dbuVm @ 10 m	no degradation of performance		
RangeLimits	100 Hz to 2KHz	observation time (TP) 10 min	max voltage change (dmax)	max Rel steady state voltage change (dc)	duration of d(t)>3%(t)	short term flicker Sev (PST)	long term flicker Sev (PLT)	Contact: 2, 4 & 6Kv pos/neg 1pps /10 sec Air: 2, 4, & 8Kv pos/neg 1pps / 10 sec	80 MHz to 1000 MHz / 3v/m Horiz & Vertical @ 2M 1000 MHz to 2500 MHz / 3v/m Horiz & Vertical @ 1M	PWR Input leads .5, 1, & 2 Kv / pos & neg / 5KHz Rep Rate	150 KHz to 80 MHz /3Vrms	3A/M RMS @ 50/60 Hz	Pause between	Int 20msecpause 10 sec >95%	10 sac	,,	. – 5MHZ,5 roup 1	30 MHz – 230 MHz / 230MHz - 1GHz, Class B, Group 1	2 Kv common mode / 1 Kv, differentia 1ppm, pos/neg		
Test Method	Harmonics	Flicker						Electrostatic Discharge	Radiated Immunity	Electrical Fast Transient/ Burst Power Leads	Conducted Immunity, Power Leads	Magnetic Immunity	Voltage Dips and Interrupts				Conducted Emissions	Radiated Emissions	Surge Immunity, Power Leads		
Standard	IEC 61000-3-2	IEC 61000-3-3						IEC 61000-4-2	IEC 61000-4-3	IEC 61000-4-4	IEC 61000-4-6	IEC 61000-4-8	IEC 61000-4-11				CISPR 11	CISPR 11	IEC 61000-4-5		

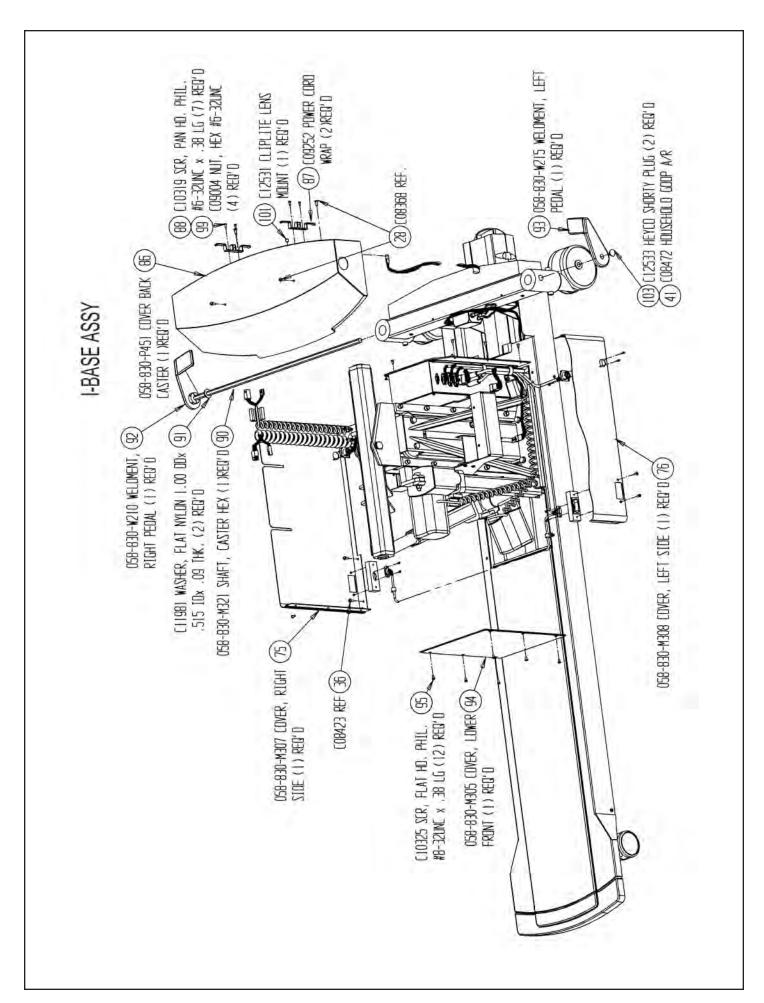




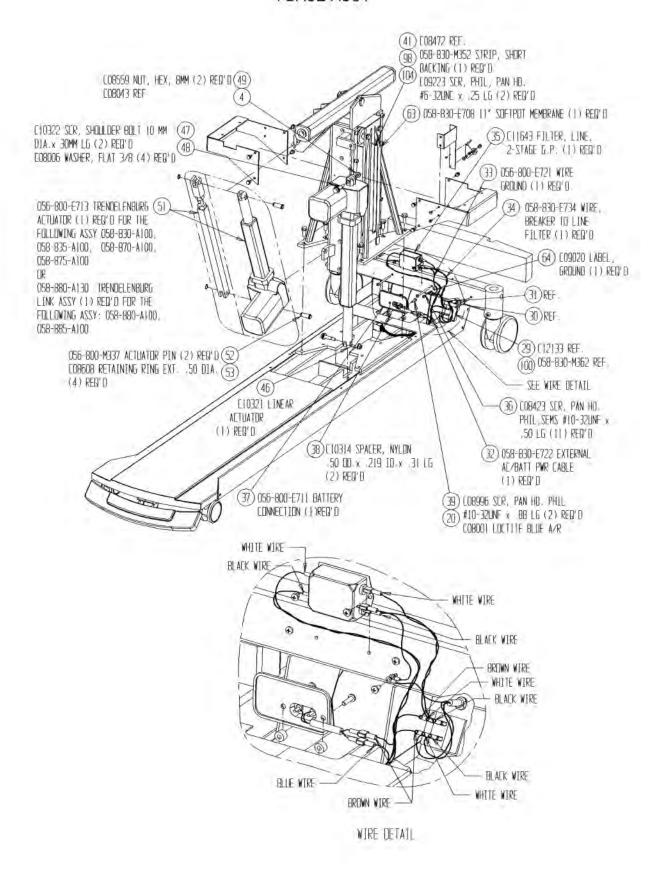


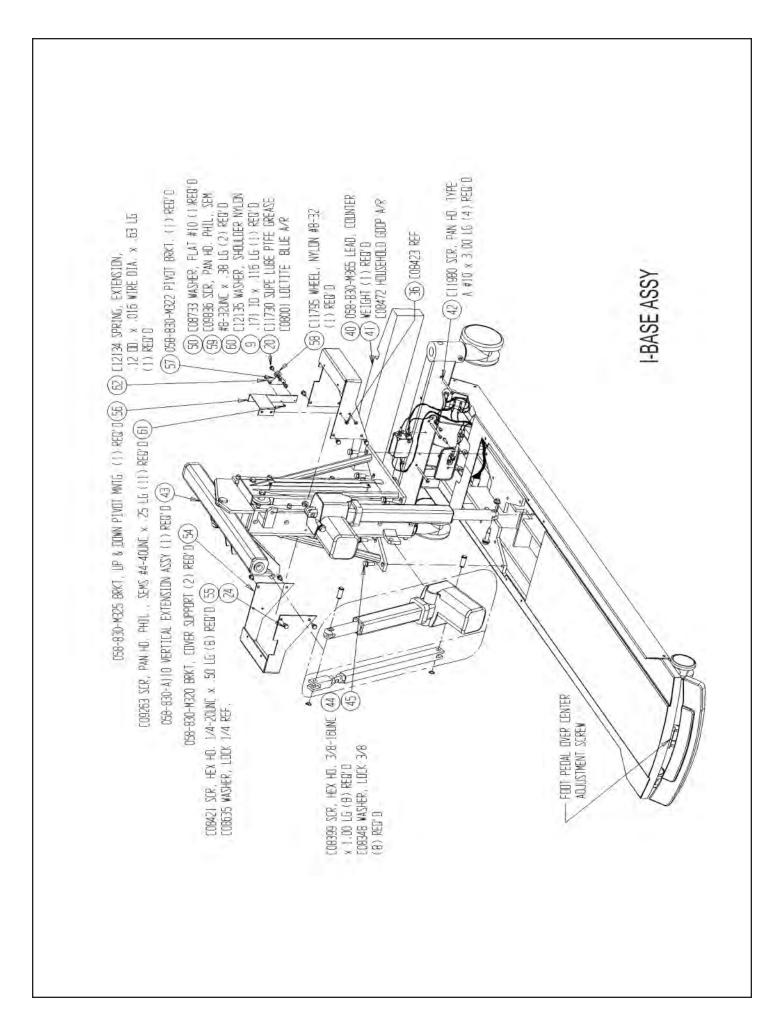


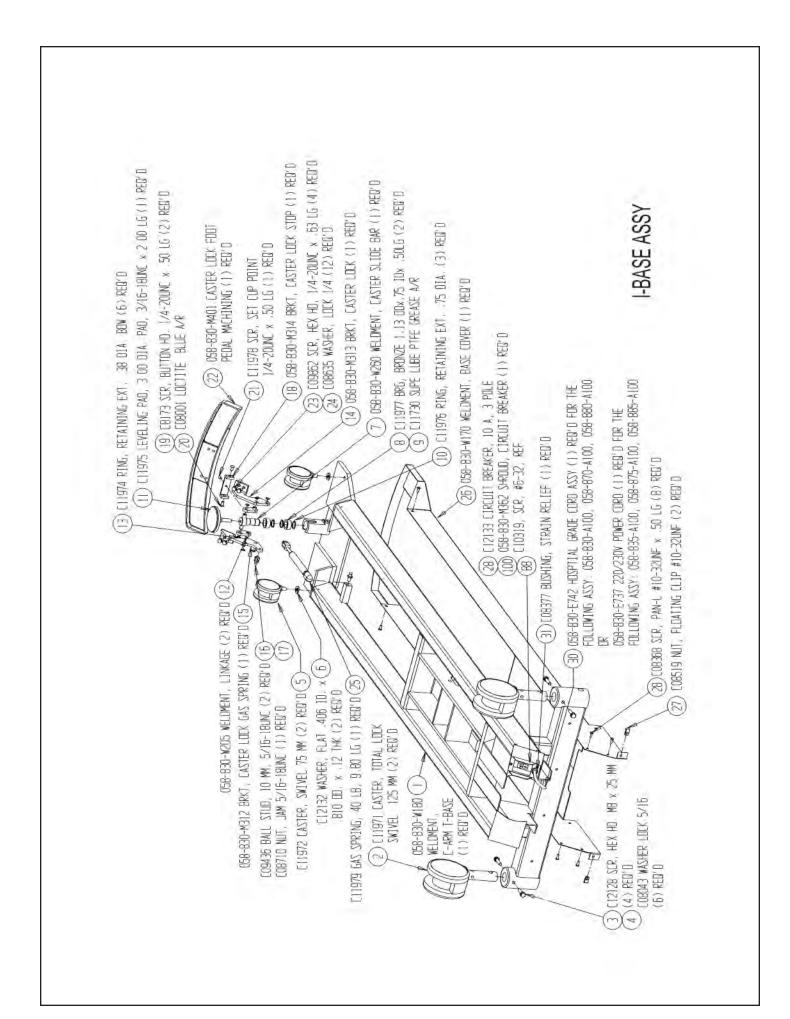


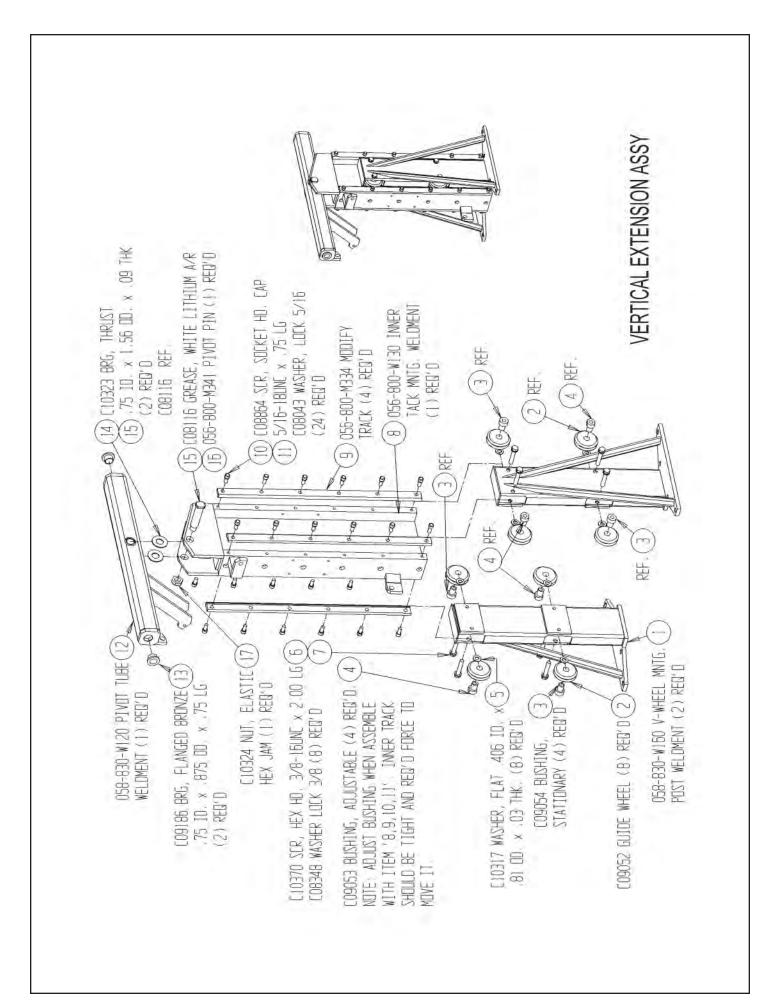


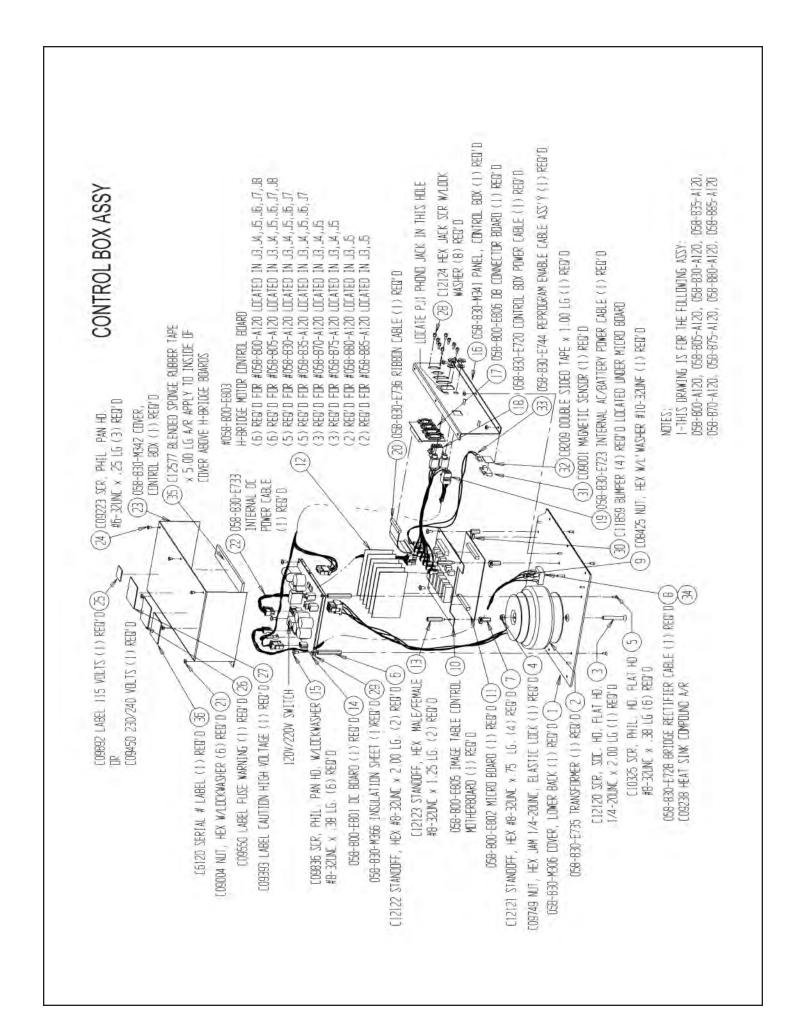
I-BASE ASSY

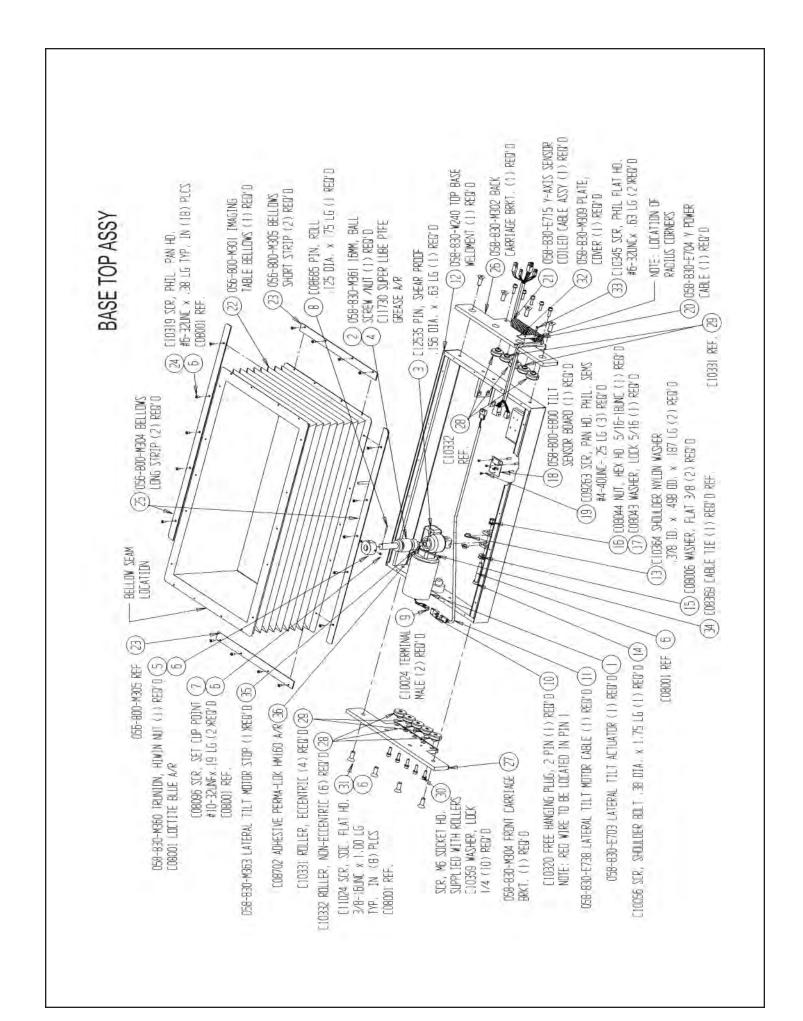




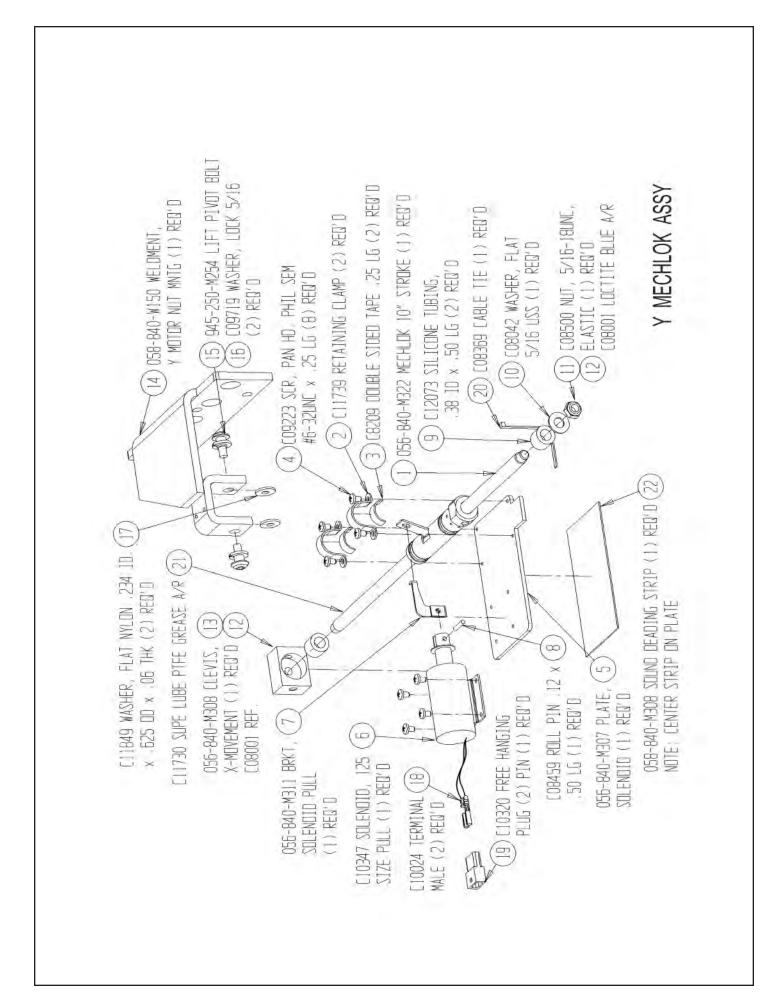


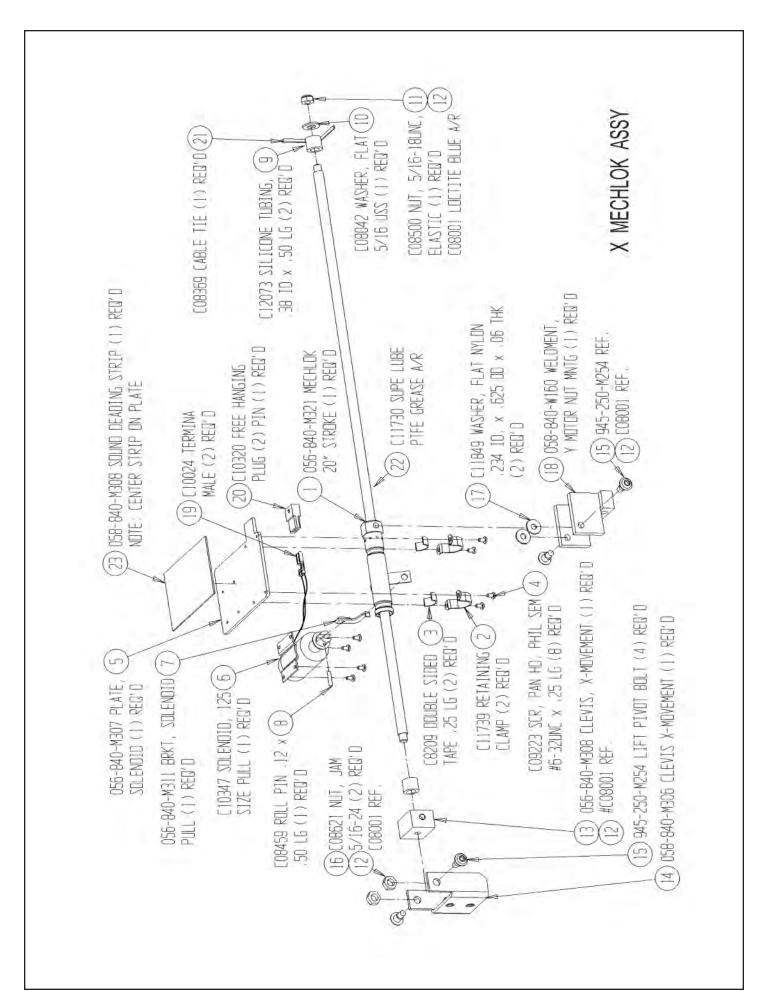


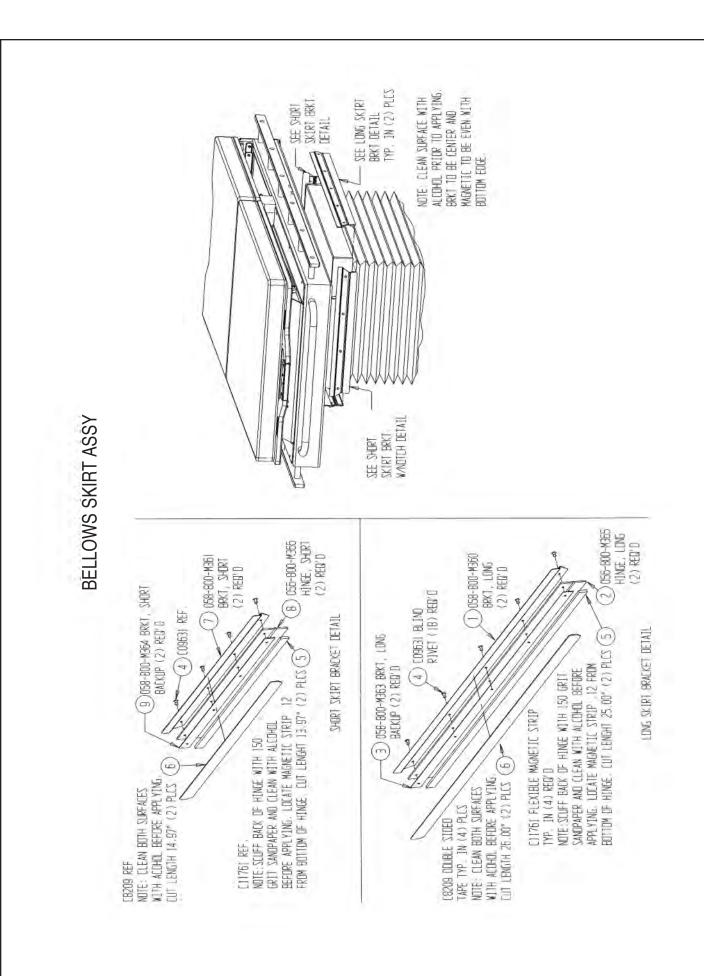




7) 058-830-M3Z7BRKT, MDTIDN Y MDTDR 7 MNTG (1) REQ'D FDR 058-830-A020 DR 058-840-M307 CLEVIS, Y-MDVEMENT (12) REGYD COBOO! LOCTITE BLUE A/R (1) RED'D FDR 058-840-A020 2) C10332 RF 9 (10800) REF 3) C10331. REF FDR THE FDLLDWING ASSY: 058-830-A020, 058-840-A020 CARRIAGE ASSY NDTES: 1-THIS DRAWING IS (2) C10332 ROLLER, NON-ECCENTRIC (8) REG'D 058-830-M328 Y MDTDR 3)[1033] RFF SOUND DEADTING GASKET (1) RED'D 2) C10332 REF) 058-B30-W250 X-Y CARRIAGE WELDMENT (1) REG'D 6 3)(1033) RF. OS8-830-M386 XDUND DEADING STRIP (6) REID'D (14 NOTE: CENTER IN PAN DO NOT COVER DRAIN HOLE) SCR, MG SOCKET HO. SUPPLIED WITH ROLLERS (5 .015 THK X-Y CARRIAGE 005 THK X-Y CARRIAGE 002 THK X-Y CARRIAGE OOI THK X-Y CARRIAGE C10359 WASHER, LOCK 1/4 (12) RED'D 2) C10332 REF ECCENTRIC (4) REG'D 3)C10331 ROLLER. DO NOT TIGHTEN BOLTS SHIM ADJUSTMENT IS REG'D 056-840-M350 SHIM, 056-840-M351 SHIM, 056-840-M352 SHIM, 056-840-M353 SHIM (2) REL'D







CIZIGZ SPHERICAL BEARING, 38 ID (1) REG'D IN SPHERICAL. BEARING MUST NOTE: DO NOT GET ADHESTIVE COVER PLATE (1) RED'D 22) 058-870-M301 JDYSTICK 058-830-M381 JDYSTICK SHAFT (1) RED'D PERMA-LOK HMI 60 A/R MACHINED, JOYSTICK -THIS DRAWING FOR THE FOLLOWING ASSY: FDR 058-870-A230 23) 058-830-L607 LABEL C08702 ADHESTIVE, FOOT SWITCH ASSY FIGURE (1) RED'D 22) 05B-830-M403 #6-32UNC x .75 LG (2) RED'D MOVE FREELY (1) 889'0 CO9396 SCR, PAN HD. PHIL 058-830-4230, 058-870-4230 FDR #058-870-A230 3 (R)(R) FOOTSWITCH ASS FOOTSWITCH ASSY NE DE 358-870-A230 058-830-4230 (1) REG'D 12) 058-830-E801 FDJR BLTTDN w)(w 17) [11859 BUMPER (1) 058-B30-M402 MACHINED C12163 REF C08472 REF FOOTSWITCH BOARD (4) RED'D FODTSWITCH HOUSING 058-830-L606 REF. 31 DIA, (6) RED'D 11) C08422 REF 16) CO9410 SCR, PAN HO, PH.IL #6-32LNC x . 38 LG (6) RED'D 1) RED/D 4) CIZIGS RETAINING 'C' (10) RED'D FDR 058-830-A230 6) RED'D FDR #058-870-A230 058-830-L 606 LABEL, ARROW OS8-B30-E741 FIDTSWITCH POWER CABLE (1) RED'D 4 #4-40UNC x .50 LG (10) REG'D FOOTSWITCH HARNESS COB422 SCR, PAN HD. PHIL. CABLE (1) REG'D DSB-830-L605 LABEL, (UP/DDWN (1) RED'D LABEL, LATERAL 19) 058-830-1604 13)058-830-E740 (I) REC'D PLATE (1) REG'D E8EM-068-850 (SI m) (8) RENDELENBURG (1) RED'D 10) RED'D FDR #058-830-A230(6) REG'O FOR #058-870-A230 2 CIZIGE SPRING, COMPRESSION C09034 SCR,PAN HD. PHIL (7) #6-32UNC x .50 LG (6) RED'D (8) C08001 LDCTITE BLUE A/R CO8472 HOUSEHOLD GDDP A/R 058-830-L603 LABEL, D58-830-M404 MACHINED,(2 SHFT (3) 图(5) 058-830-E800 TWD BLITTON (10) FDDTSWITCH BDARD (3) RED'D (10) RED'D FDR #058-830-A230 CI2164 SPACER, ROUND NYLDN ((6) RED'D FDR #058-870-A230 058-830-M3B0 PEDAL (3) RED'D

