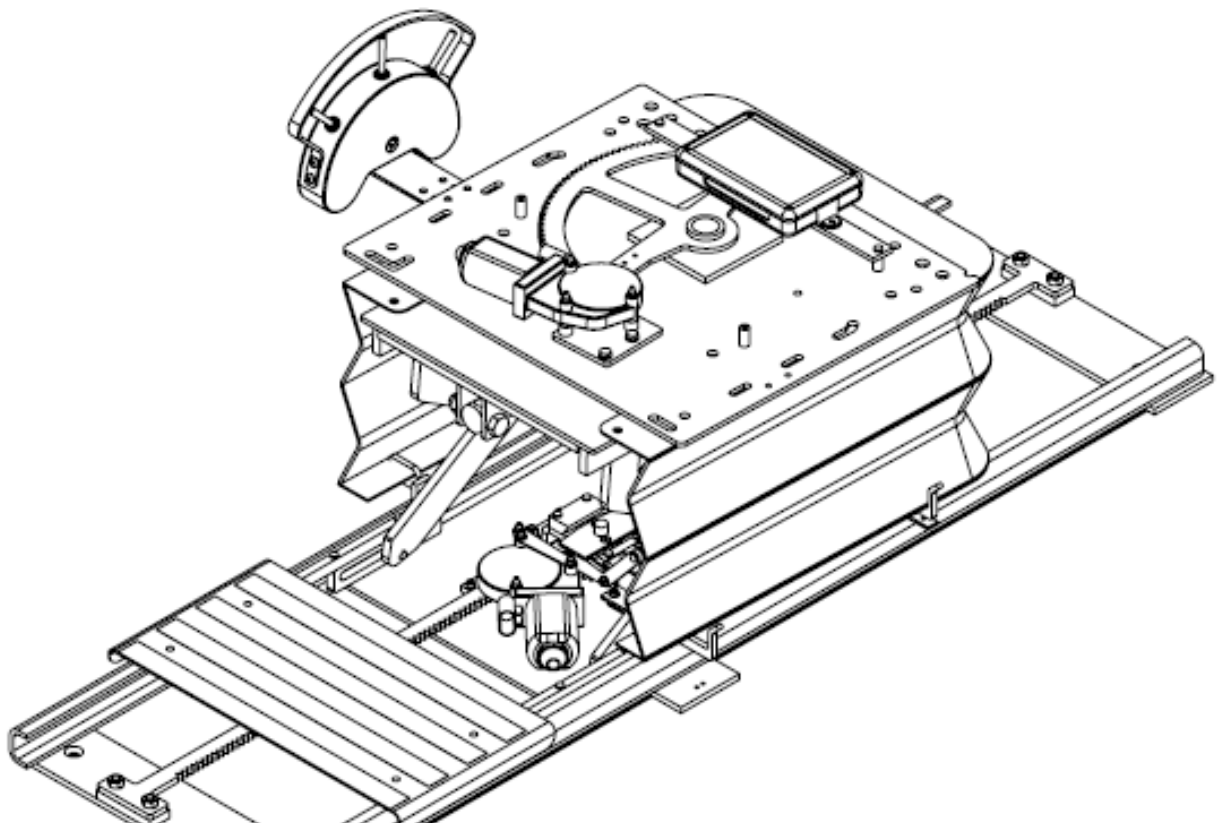




handimobil

HPB Series Installation Instructions



For Use with the HPB 920L, HPB 1220L & HPB 1620L Seat Bases.

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Precautions and Warnings

Throughout these installation instructions, you will find several safety precautions highlighted for easy identification. Please familiarize yourself with these symbols and be sure to read through each carefully.

 **CAUTION**

THESE TAGS DIRECT YOUR ATTENTION TO SPECIFIC AREAS THAT REQUIRE SPECIAL ATTENTION.

 **WARNING**

THESE TAGS POINT OUT HAZARDS OR PRECAUTIONS YOU MUST BE AWARE OF.

Manufactured by B&D Independence, Inc for Handimobil

Handimobil Warranty

Handimobil has one of the most comprehensive service warranties in the industry. The Handimobil warranty, outlined herein, covers its Transfer Seat Bases to be free from defects in material and workmanship for a period of **two years on parts and one year limited labor** from the date the product is placed in service in the original vehicle.

This Warranty is effective when:

- The Transfer Seat Base has been installed in accordance with the Handimobil Installation Guidelines.
- A certified mobility dealer performs the installation.
- The Warranty Registration Card is filled out and on file at Handimobil.
- The Transfer Seat Base is placed in service within 6 months from date of manufacture.

The Warranty Registration Card must be completely filled out and in the possession of Handimobil within 30 days after installation. If the Warranty Registration Card is not returned to Handimobil, the warranty will revert to 1 year from the date the Transfer Seat Base shipped from our factory.

Handimobil will repair or replace, at Handimobil's option, any factory installed part that is found to be defective. This is the sole and exclusive remedy for the customer and shall be limited to such repair or replacement. Labor charges for the repair and/or replacement of warranty parts, will be reimbursed to the authorized Handimobil Dealer during the first year. Pre-authorization is required for labor charges prior to parts being sent.

Warranty Claims for parts must be submitted to Handimobil during the warranty period. Handimobil will not reimburse the cost of replacement parts, nor the labor, if the replacement parts are obtained from a source other than from Handimobil. The Handimobil Warranty will not apply to defective parts or workmanship caused by misuse, abuse, modification, alteration, neglect, improper installation, operator error, or collision.

Warranty replacement parts will be sent from Handimobil to the servicing dealer at no charge. If the servicing dealer requests an expedited shipping method, the servicing dealer will be billed for the difference between the expedited & ground shipping charges.

Handimobil Warranty is NOT transferable and applies to the original purchaser only. This Limited Warranty excludes incidental or consequential damages, towing charges, rental vehicles, travel expenses, or any other expenses associated either directly or indirectly due to loss of use or defective parts covered under warranty. General maintenance and adjustments are not included in the Handimobil Warranty. Handimobil will not be responsible for any damages due to use of its products.

The Handimobil Warranty extends to our products that are installed in transportation vehicles only. Any other use of any of the products manufactured by Handimobil, other than as specified above, is not authorized by Handimobil and all warranties will be null and void. Entities that use and/or install a Handimobil transfer seat base in an unauthorized manner will do so at their own risk.

The above warranty states the entire liability of Handimobil with respect to the products it manufactures. There are no other warranties either expressed or implied. Handimobil reserves the right to make design changes to improve its products without obligation to update or retrofit existing products in service.

Dealer Warranty Claim/Replacement Parts Program

1. The following procedure applies to Warranty Parts needed for Transfer Seat Bases covered by the Handimobil Warranty.
2. Handimobil does not sell or ship parts to anyone other than an Authorized Handimobil Sales & Service Dealerships.
3. Please have the Transfer Seat Base Serial Number, description of the problem and the parts required.
4. Obtain a Return Material Authorization (RMA) Number from Handimobil.
5. Warranty replacement parts will be sent from Handimobil to the servicing dealer. If expedited, shipping charges will be at the dealers expense.
6. Handicare may require that the defective parts are to be returned for credit.
7. When the defective part is ready for pickup, please call Handimobil and they will arrange for pickup and further instructions. Parts sent to Handimobil freight-collect or COD will be refused. Returned warranty parts that are unused may be subject to a 20% restocking fee.
8. IF DEFECTIVE PART IS NOT RETURNED TO HANDImobil WITHIN 60 DAYS OF THE ORIGINAL INVOICE DATE, THE WARRANTY CLAIM WILL BE DEEMED ABANDONED AND NO CREDIT WILL BE ISSUED.

HPB Sub Assembly Part Listing

Figure 1.1 is a sub assembly listing of all three variations of the HPB.

#	DESCRIPTION	PART #
1	SLIDE RAIL ASSEMBLY - 920	71301
1	SLIDE RAIL ASSEMBLY - 1220	71311
1	SLIDE RAIL ASSEMBLY - 1620	71321
2	DELRIIN BEARING KIT	SA-13-DEL
3	LEG BOLT KIT	SA-3-HPB
4	SLIDE GEAR BAR MOUNT (Requires 2)	71368
5	SLIDE GEAR BAR - 920	71310
5	SLIDE GEAR BAR - 1220	71312
5	SLIDE GEAR BAR - 1620	71313
6	CABLE CARRIER RETAINER	71337
7	OUTSIDE LEG ASSEMBLY	71329
8	UPPER PLATE ASSEMBLY	SA-8-L71-HPB-180-1B1
9	CIRCUIT BOARD ASSEMBLY	A-8504-E
10	TOGGLE SWITCH	8860
11	SWITCH BOX ASSEMBLY - No Switches	SA-15-3-HPB-1
12	MOTOR, SIEMENS	8684
13	ACTUATOR, 4" DANAHER - 1,500#	8605
14	INSIDE LEG SET	71386 + 71387
15	SOLENOID REPLACEMENT KIT	SA-71411
16	FOOTREST ASSEMBLY	SA-71356-1
17	MOTOR, SIEMENS (Requires 2)	8684
NS	CABLE CARRIER ASSEMBLY - 920	SA-22-HPB-920
NS	CABLE CARRIER ASSEMBLY - 1220	SA-22-HPB-1220
NS	CABLE CARRIER ASSEMBLY - 1620	SA-22-HPB-1620
NS	WIRING HARNESS, UPPER (ALL)	71418
NS	MAIN WIRING HARNESS ASSEMBLY - 920	71419
NS	MAIN WIRING HARNESS ASSEMBLY - 1220	71417
NS	MAIN WIRING HARNESS ASSEMBLY 1620	71420
NS	WIRING HARNESS & SWITCH BOX ASSEMBLY	SA-17-L71-HPB-2
NS	DUAL SLIDE MOTOR WIRING HARNESS	WH-27-L51
NS	BELLOWS KIT	SA-8788

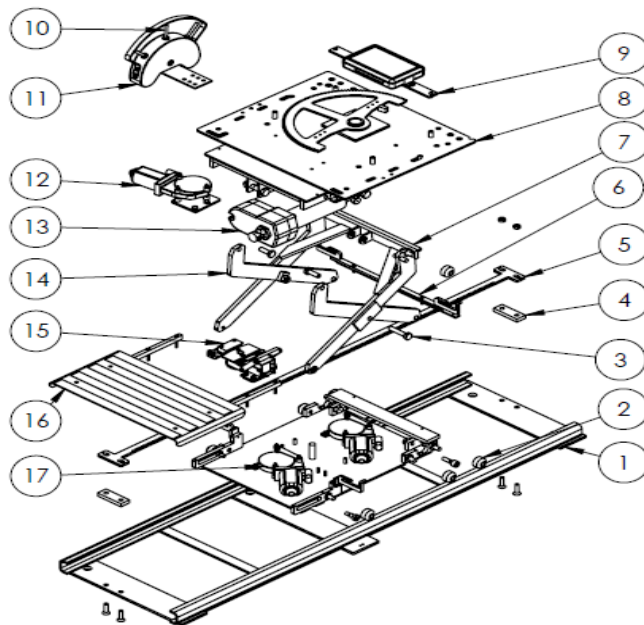


Figure 1.1

HPB Top Plate Assemblies

Figure 1.2 highlights the positioning of the switch box and swivel gear for both a seat base positioned on the left side of a vehicle as well as the right side.

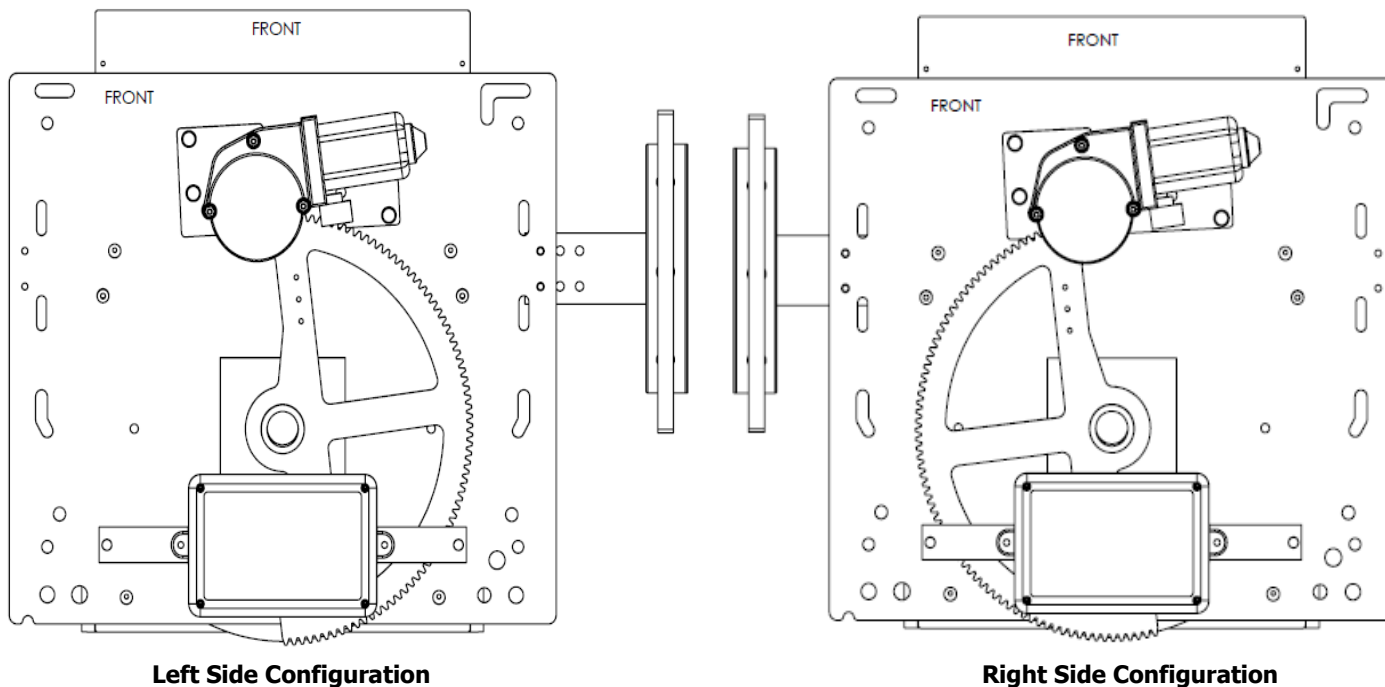


Figure 1.2

Left Front to Right Front Conversion Steps

Depending on the needs of the customer, all HPB seat bases are capable of adapting to either a right front or left front position. HPB seat bases ship in the Left (or L) position.

** If this is the correct application for your installation, skip to page 5. **

A.) Change Rotation Direction.

- 1.) Start by providing 12 volts of power and a ground to the seat base. This is temporary, and will be removed before the final, permanent power and ground is attached to the seat base.
- 2.) Using the up/down toggle switch, drive the seat base to its full up position.
- 3.) Locate the swivel gear retention plate (SEE: #1 in Figure 1.3). Remove the P-clamp holding the wiring and (2) 10mm bolts in the plate.
- 4.) While holding the top plate in the forward position, use the Left/Right toggle switch to rotate the swivel gear 180 degrees. Watch the wiring underneath the top plate to ensure it doesn't catch as it rotates.
- 5.) Re-attach the retention plate with the 10mm bolts; reinstall the P-clamp.
- 6.) Check rotation (SEE: Figure 1.2, Page 3) to ensure the swivel gear is properly aligned.

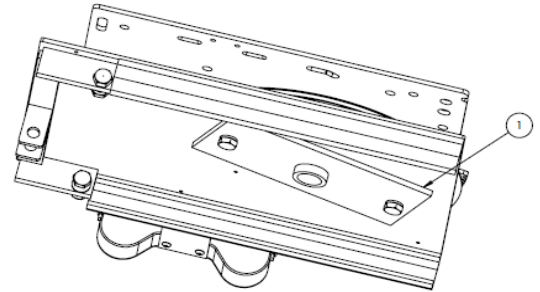


Figure 1.3

B.) Relocate Switchbox

- 1.) Switch box assembly is always positioned at the inboard edge of the top plate of the transfer seat base (SEE: Figure 1.5, Page 5, front left vehicle seating position shown).
- 2.) Remove the P-clamp and (2) bolts attaching the switchbox bracket to the seat base (SEE: Figure 1.5, Page 5).
- 3.) Move the switchbox to the other side of the top plate and reinstall the bolts and P-Clamp.

C.) Wiring Alteration

- 1.) Removing the switchbox cover.
- 2.) Left Side Switch Wire Configuration, Wire Location in Switch Box; from Front to Rear Inside Box : **Front** : blue, black, brown, orange, black, white, green, black, red : **Rear**
- 3.) Right Side Switch Wire Configuration, Wire Location in Switch Box; from Front to Rear Inside Box: **Front** : blue, black, brown, orange, black, white, red, black, green : **Rear**
- 4.) Remove the old directional stickers from the switches and reapply new ones (SEE: Figure 1.4).
- 5.) Verify all directions of motion. If any axis is rotating backwards, reverse the respective motor wires on the circuit board, **not** the wires on the toggle switches.
- 6.) Reinstall the switch box cover; you are done.

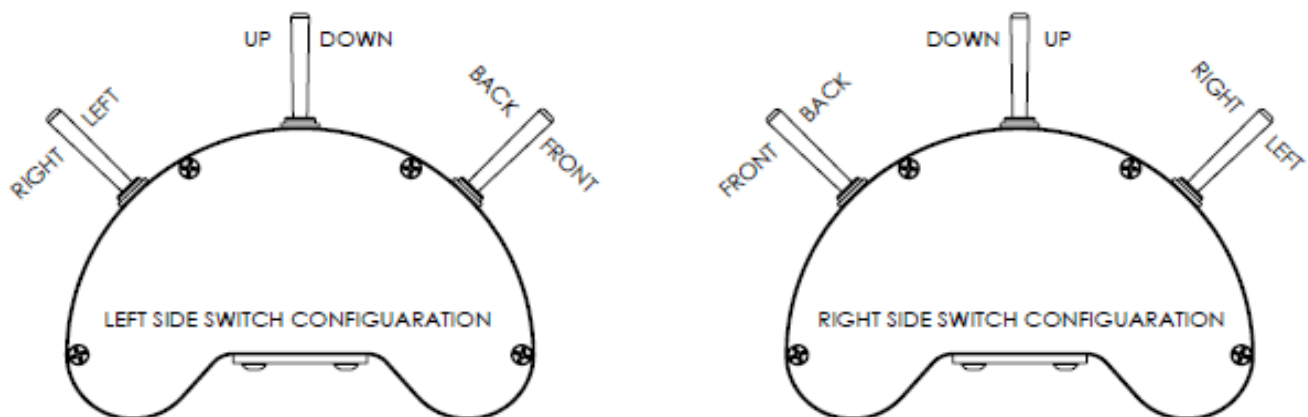


Figure 1.4

1.) Power & Ignition Wiring Connections

- a.) Handimobil only recommends using & installing the provided 30 Amp fuse & holder, and the 3 Amp fuse & holder, as described in this manual.
- b.) Run red 10 ga. wire from vehicle battery to "B"-pillar on side of vehicle with transfer seat base.
- c.) Connect red 10 ga. wire to "+" battery terminal using supplied 30 Amp fuse & fuse holder; seal all exposed wiring connections. Cover all wire in engine compartment with loom. Remove 30 Amp fuse.
- d.) Connect 3 Amp fuse & holder to the specified True Ignition wire from Handimobil. Be sure that the fuse holder will have future access if needing to be checked or replaced. Remove 3 Amp fuse.
- e.) Connect orange 16 ga. wire to fuse holder, route the orange wire to the "B"-pillar alongside the red 10 ga. power wire.
- f.) Handimobil suggests covering any exposed orange 16 ga. or red 10 ga. wires from under the dash to the transfer seat base with loom, and make sure wire is routed out of the way of feet.



2.) Prepare the Transfer Seat Base

Using two people, remove the transfer seat base from its packaging and place on a work table.

3.) Attach the Switch Box

Attach the switch box (SEE: #1 in Figure 1.5) to the top plate using the provided bolts (SEE: #2 in Figure 1.5). Note that the switch box is always installed on the inboard side.

Left-front seating position shown in Figure 1.5.

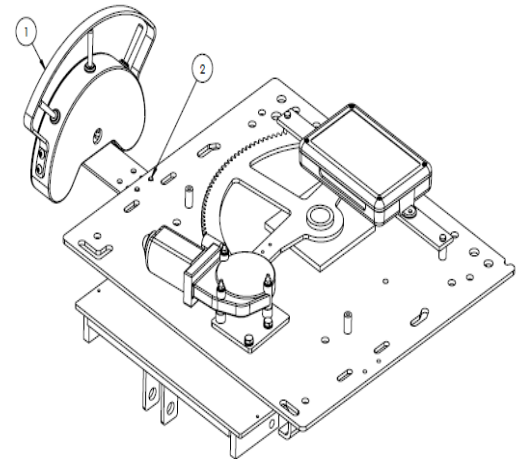


Figure 1.5

4.) Measure Distance from Seat to Dash

Before removing the factory seat and pedestal from the vehicle, run the seat to its full forward and downward (if applicable) position.

Take measurements from the dash and/or steering wheel to the front of the seat cushion; these measurements are where the seat will be re-positioned.

5.) Remove Seat & Pedestal from Van

Remove factory seat and pedestal from vehicle as one unit.

6.) Mount Seat onto Transfer Seat Base

7.) Ensure Seat Clears Seat Base Through all Ranges of Motion of Seat & Base

Check clearance of the plastic seat panels. Make sure plastic seat panel clears the Center Plate Assembly through all the ranges of motion. If seat is factory power, apply temporary power and ground to run the factory seat through all of its ranges of motion, and verify that no piece of any plastic panel hangs down

beyond the top surface of the center plate. Once verified, disconnect the temporary power and ground.

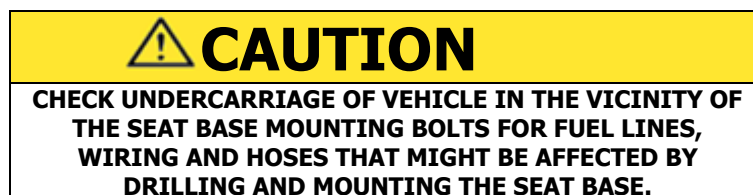
8.) Extend OEM Wiring Harness

- It is important that ALL wires going to the factory seat are extended.
- "Fault" lights may illuminate on the dash if all wires are not re-connected.
- Handimobil supplies a 5-wire harness extension already routed through the transfer seat base, without any wire terminals on them. This 5-wire harness has extra wire length at the top and the bottom of the transfer seat base to allow the OEM seat wiring harness to be spliced into it.
- Handimobil does NOT recommend connecting factory power seats to the HPB electrical system.



9.) Install Seat & Base into Vehicle

- a.) Place the HPB transfer seat base, with the factory seat installed on top of it, into vehicle.
- b.) Locate the 18" long ground strap next to where the red 10 gauge power wire attaches to the transfer seat base at the "B"-pillar. Temporarily attach this ground strap to chassis ground.
- c.) Temporarily install the 30 Amp fuse at battery, and attach power to the transfer seat base.
- d.) Run the transfer seat base to the full-forward position. Adjust and position the transfer seat base so the front of the seat is the same distance from the dash as the factory seat and pedestal were originally located. The seat back needs to be in its full-upright position, not reclined.
- e.) Run the transfer seat base to the full-back position, and if applicable, as far 'up' as possible.
- f.) Swivel the seat to the side and check the distance between the back of the seat and the side of the van; the seat back should not hit the side of the van with the seat back in its full-upright position. If the seat back hits the side of the vehicle with the seat swiveled, move the rear of the transfer seat base towards the center of the vehicle for clearance.
- g.) Swivel the seat forward as far as it will go; continue activating toggle switch until seat base completely stops turning; the seat base is now against its Positive Stop. Run the transfer seat base to full-down and full-forward positions.
- h.) Double check measurement from seat to dash.
- i.) Seat base rails must be level from front to rear and side to side. Remove 30 Amp fuse.
- j.) Drill and mount seat base to floor using (6) 8mm FHCS.



- k.) After the transfer seat base is completely installed to the vehicle's floor, cut the red 10 ga. wire at the "B"-pillar to length, install a yellow female push-on terminal, and connect to the red 16 ga. wire on the transfer seat base.
- l.) Connect the orange 16 ga. ignition wire at the "B"-pillar to the orange 16 ga. wire in wire harness coming out of chain carrier with a butt connector.
- m.) Permanently attach the 18" long black ground wire with ring terminal to chassis ground.
- n.) Install both the 30 Amp & 3 Amp fuses into their respective fuse holders.
- o.) The Power Transfer Seat Base is ready to operate.

10.) Final Inspection

A final check of the entire transfer seat base, wiring, the factory seat, and anything else concerning or involving the transfer seat base, should be done to ensure safe, trouble-free operation. Some suggested items to check (But not limited to) are:

- Exposed wiring and-or wiring connections
- Factory seat wiring harness extension does not get snagged or caught through entire range of motion
- Check Seat Base and all other areas for any exposed edges or surfaces that are sharp or rough.
- Ensure all installation bolts are tight.
- Verify that all warning lights are OFF on the dash.
- Verify that all functions of the factory seat work correctly.
- If any of the above items pertain to this installation, correct all items PRIOR to delivering to the end-user.
- Verify the transfer seat base does NOT operate while engine is running.

11.) Correct Transfer Seat Base Function

Vehicle Engine Off : All transfer seat base functions should operate.

Vehicle Engine On : All transfer seat base functions should NOT operate.

12.) Procedure to Adjust Swivel Speed

The swivel speed of the Transfer Seat Base is capable of being set, from half speed to full speed and anywhere in between. It is pre-set from the factory at 100% of its swivel speed.

To adjust:

- a.) Locate circuit board enclosure on the transfer seat base. (see Figure 1.6)
- b.) Using a small flat screwdriver, adjust the white dial to desired speed.



Figure 1.6

** Note that this adjustment is a $\frac{3}{4}$ turn maximum adjustment, where approximately 7 o'clock is the slowest setting.

Adjusting clockwise to approximately 5 o'clock is full speed. **

13.) Procedure to Re-Adjust Leg Bolts to Their Correct Tightness

During the final check, you may find the outside and inside legs providing too much or too little resistance. Below are easy steps to re-calibrate the leg bolts for optimal effectiveness.

- a.) Tools required:
2 box-end 17mm wrenches.
- b.) Run base to the full-up position.
- c.) Steps d.) through h.) are repeated for each leg bolt (see Figure 1.7).
- d.) Loosen the locknut 1 full turn.
- e.) Loosen the bolt enough to see clearance between the bottom of the head of the bolt and the leg.
- f.) Tighten the bolt until snug (not tight.)
- g.) Loosen (back-off) the bolt $\frac{1}{8}$ of a turn.
The bolt is now adjusted to the correct tightness.
- h.) Prevent bolt head from rotating using 1 box-end wrench while tightening the locknut with the other box-end wrench.

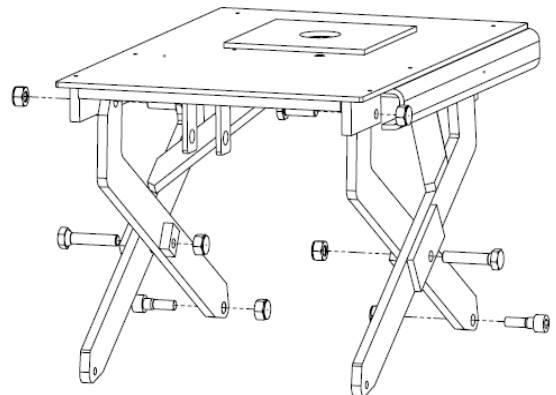


Figure 1.7

14.) Installing A Hand-Held Pendant

- a.) Locate and remove the circuit board cover.
- b.) Plug-in the white 7-pin plug into the open 7-pin position on the circuit board.
- c.) Route harness out through an opening of the circuit board enclosure.
- d.) Route harness to desired customer location, securing harness appropriately.
- e.) Install pendant attachment clip to secure to desired customer location.

15.) Correct Driving Position

The vehicle may be driven with the transfer seat base positioned within 25 cm of its full-forward position. The vehicle may be driven with the transfer seat base adjusted to any vertically-adjusted position.

Important Items to Note:

- Only operate 1 toggle switch at a time; release toggle switch when at desired location.
- While swiveled, do not raise or lower the transfer seat base or move the transfer seat base back and forth. This may cause damage to the wiring harness.

Correct Operation of Toggle Switches on Handicare Switch Box

- **To Transfer From the Driving Position to the Wheelchair or Scooter**
 - Push rearward on front toggle switch to move transfer seat base rearward.
 - Push rearward on middle toggle switch to raise transfer seat base to desired position.
 - Push rearward on rear toggle switch to swivel the transfer seat base to point sideways.
- **To Transfer From the Wheelchair or Scooter to the Driving Position**
 - Push forward on rear toggle switch to swivel the transfer seat base to point straight ahead.
 - Push forward on middle toggle switch to lower transfer seat base to desired position.
 - Push forward on front toggle switch to move transfer seat base forward.