



FERNO

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Users' Manual



MODEL 59-T

MODEL 59

Model 59-T and Model 59 EZ Glide™ Evacuation Chair

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Disclaimer

This manual contains general instructions for the use, operation and care of this chair. The instructions are not all-inclusive. Safe and proper use of this chair is solely at the discretion of the user. Safety information is included as a service to the user. All other safety measures taken by the user should be within and under consideration of applicable regulations. It is recommended that training on the proper use of this chair be provided before using this chair in an actual situation.

Retain this manual for future reference. Include it with the chair in the event of transfer to new users. Additional free copies are available upon request from Customer Relations.

Proprietary Notice

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**Additional Instructional Material Available for the
EZ Glide Evacuation Chair**

EZ Glide Training CD 283-1214

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1 - SAFETY INFORMATION

1.1 Warnings

Warning notices indicate a potentially hazardous situation which, if not avoided, could result in injury.

! WARNING

Untrained operators can cause injury or be injured. Permit only trained personnel to operate the chair.

Improper use of the chair can cause injury. Use the chair only for the purpose described in this manual.

Attaching one-piece restraints improperly can allow seat and back panels to dislodge, resulting in injury. Restraints must capture panels AND chair frame.

Using the chair with the track unlocked can cause injury. Verify that the track is locked before transporting the patient.

Lubricating the track system can result in injury to the patient and/or operators. Never lubricate the track or belts.

Improper operation can cause injury. Operate the chair only as described in this manual.

An unattended patient can be injured. Stay with the patient at all times.

An unrestrained patient can fall off the chair and be injured. Use restraints to secure the patient on the chair.

Helpers can cause injury or be injured. Maintain control of the chair, operate the controls, and direct all helpers.

Improper maintenance can cause injury. Maintain the chair only as described in this manual.

! WARNING

Attaching improper items to the chair can cause injury. Use only Ferno-approved items on the chair.

Modifying the chair can cause injury and damage. Use the chair only as designed by Ferno.

Attaching improper items to the chair can cause injury. Use only Ferno-approved items on the chair.

1.2 Important

Important notices emphasize important usage or maintenance information.

Important

The chair lock must be disengaged **before** beginning to fold or unfold the chair. Pull the lock bar forward, **then** begin to fold or unfold the chair.

1.3 Bloodborne Disease Notice

To reduce the risk of exposure to bloodborne diseases such as HIV-1 and hepatitis when using the chair, follow the disinfecting and cleaning instructions in this manual.

1.4 Safety and Instruction Labels

Safety and instruction labels place important information from the users' manual on the chair.

Read and follow label instructions. Replace worn or damaged labels immediately. New labels are available from EMSAR (page 32) or from Ferno Customer Relations (page 34).

The labels illustrated on pages 6 and 7 are affixed to the chairs.

Safety and Instruction Labels (continued)

MODEL 59-T EVACUATION CHAIR LABELS

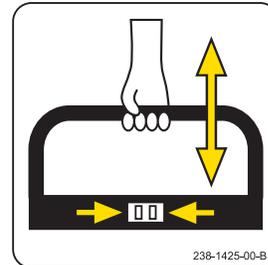
Model 59-T EZ Glide Evacuation Chair

- Minimum of two trained operators required
- Use only as described in users' manual
- Free users' manuals: 1-800-733-3766 or www.ferno.com



238-1425-00-A

Label A
Basic Safety Guidelines and Load Limit



Label B
Instruction for Adjusting Lift Bar Height

Pull then Fold/Unfold Chair

238-1425-00-C

Label C - Instruction for Folding and Unfolding Chair

Do Not Lubricate



238-1425-00-D

Label D
Safety Instruction:
Do NOT Lubricate
Track System

Label F
Instruction for
Closing Track

Push to Close



238-1425-00-F

Pull to Open



238-1425-00-E

Label E - Instruction for Opening Track

WARNING

Attaching restraints improperly can allow seat and back panels to dislodge, resulting in injury. Restraints must capture panel AND chair frame as shown.

Free users' manuals: 1.800.733.3766 or www.ferno.com

One-Piece Restraint



Two-Piece Restraint



238-1440-00

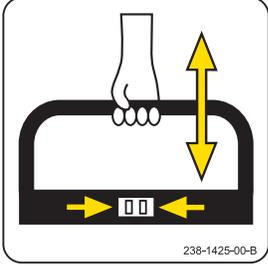
Label 234-1440-00
Safety Instruction:
How to Attach
One- and Two-Piece Restraints

Safety and Instruction Labels (continued)

MODEL 59 EVACUATION CHAIR LABELS



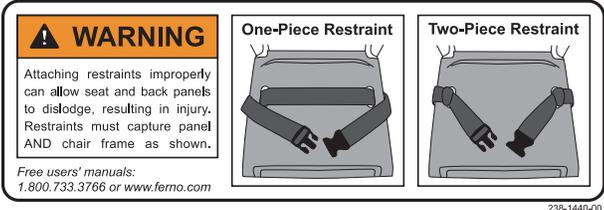
Label J
Basic Safety Guidelines and Load Limit



Label B
Instruction for Adjusting Lift Bar Height



Label C - Instruction for Folding and Unfolding Chair



Label 234-1440-00
Safety Instruction:
How to Attach
One- and Two-Piece Restraints

2 - OPERATOR SKILLS AND TRAINING

2.1 Skills

Operators using the chair need:

- a working knowledge of emergency patient-handling procedures.
- the ability to assist the patient.
- a complete understanding of the procedures described in this manual.

2.2 Training

Trainees need to:

- follow a training program designed by their training officer.
- read this manual. For additional free users' manuals, contact Ferno Customer Relations (page 34).

! WARNING

Untrained operators can cause injury or be injured. Permit only trained personnel to operate the chair.

- practice with the chair before using it in regular service.
- be tested on their understanding of the chair.
- record their training information. A sample training record sheet is provided on page 35.

3 - ABOUT THE CHAIR

3.1 Chair Description

The Model 59-T and Model 59 EZ Glide™ Evacuation Chairs (referred to as the "chair" in this manual) are emergency patient-handling devices designed to transport a seated patient up and down stairs and over flat surfaces.

The chair is for professional use by a minimum of two trained operators. A third person to "spot" may be required by local protocols, and additional help may be required when working with heavy patients.

The Model 59-T is designed with belted tracks that enable operators to "glide" the chair down stairs instead of carrying it. The Model 59 is untracked and is carried down stairs.

Chair features include:

- Belted track system for "gliding" chair down stairs (Model 59-T only)
- Choice of molded ABS seat and back panels or soft vinyl seating
- 5-position extending lift bar at rear of chair
- 5-position telescoping front lift handles
- 6" rear locking wheels
- 4" front swivel wheels
- Folding footrest
- Ankle restraint
- Multiple patient restraint options

Optional Accessories:

- Rear lift handles, locking or non-locking
- IV bag holder
- O₂ bottle holder
- Headrest (head pad with strap)
- Kwik Klip™ Restraint System
- Secure Mount (with spring release) for storing chair in ambulance or station
- Bracket (with hooks) for storing chair in station

3.2 General Specifications

Height

Maximum 63.5 in/161 cm
 Minimum 37.5 in/95 cm

Width

Overall 20.313 in/51.6 cm
 Seat 16.5 in /42cm

Depth (front to back, Model 59-T)

Tracks Closed, Handles Retracted 28 in/73 cm
 Tracks Open, Handles Extended 51 in/130 cm

Depth (front to back, Model 59)

Handles Retracted 27 in/69 cm
 Handles Extended 40 in/102 cm

Folded (Model 59-T)

..... 37.5 in x 20.313 in x 8 in
 95 cm x 51.6 cm x 20 cm

Folded (Model 59)

..... 37.5 in x 20.313 in x 7 in
 95 cm x 51.6 cm x 18 cm

Weight*

Model 59-T 33 lb/15 kg
 Model 59 26 lb/12 kg

Load Limit..... 500 lb/227 kg

* without restraints or accessories

Some specifications are rounded to the nearest whole number. Metric conversions are calculated before rounding the Imperial measurements. For more information, contact Ferno Customer Relations (page 34).

Ferno reserves the right to change specifications without notice.

LOAD LIMIT



Inspect the chair if the load limit has been exceeded (see *Inspecting the Chair*, page 24).

⚠ WARNING

Improper use of the chair can cause injury. Use the chair only for the purpose described in this manual.

3.3 Components - Model 59-T and Model 59

Components of both chair models are the same except for those parts marked "59-T Only."



RESTRAINT OPTIONS



USERS' MANUAL



To request additional free users' manuals, contact Ferno Customer Relations (page 34).

4 - CHAIR SETUP

4.1 Restraint Configurations for Chair with ABS Panels

Follow local protocols when choosing a configuration. Two possible configurations are described below.

HORIZONTAL CONFIGURATION

Use one restraint for the chest and one restraint for the lap (Figure 1).

1. Attach the chest straps through matching horizontal or vertical slots in the backrest panel.
2. Attach the lap straps through the seat panel slots.

CRISS-CROSS CONFIGURATION

Use two restraints for the torso. Ferno recommends using a third restraint for the lap (Figure 2).

1. Attach one strap of a restraint through a vertical slot on the backrest panel of the chair.
2. Attach the other strap of the restraint through the seat panel slot on the opposite side of the chair.
3. Repeat with the second restraint, attaching its straps to opposite sides of the chair.
4. Attach the lap restraint through the seat-panel slots.

4.2 Using One-Piece Restraints

Ferno recommends using two-piece restraints with the backrest and seat panels, but if you choose to use one-piece restraints, they must capture the panel and frame, as follows:

1. Work from the patient side of the panel and feed the ends of the restraint through the slots on opposite sides of the panel.
2. Wrap the restraint around the chair frame, capturing the panel **and** the frame (Figure 3 Top).
3. Buckle the restraint (Figure 3 Inset) and adjust the length.



Figure 1 -Horizontal Restraint Configuration



Figure 2 - Criss-Cross Restraint Configuration with Lap Belt

! WARNING

Attaching one-piece restraints improperly can allow seat and back panels to dislodge, resulting in injury. Restraints must capture panels **AND** chair frame.



Figure 3 - Top: Correctly Wrapped Restraint Inset: Restraint Fastened

4.3 Ankle Restraint

Attach the two-piece ankle restraint to the front legs of the chair.

To attach the restraint:

1. Unbuckle the restraint to separate the straps.
2. Wrap a strap around one front leg of the chair and thread the buckle through the loop (Figure 4).
3. Pull the strap until the looped end is tight around the chair leg (Figure 5).
4. Attach the remaining strap to the other front leg of the chair.
5. Buckle the restraint and adjust the length (Figure 6).



Figure 4 - Threading Buckle Through Loop



Figure 5 - Tightening Strap

4.4 Attaching Restraints to Chair With Soft Vinyl Seating

With soft vinyl seating, use the criss-cross restraint configuration plus a lap restraint (Figure 2, page 10).

Attach restraints as follows:

1. Unbuckle a restraint to separate the straps.
2. Attach the strap with the female buckle piece to the left or right side of the backrest frame (Figure 7). Follow instructions in the restraint users' manual for attaching a two-piece restraint.
3. Attach the strap with the male buckle piece to the exposed area of the seat frame on the opposite side of the chair.
4. Repeat steps 1-3 to attach the second torso restraint.
5. Attach a lap restraint alongside the restraints already attached to the seat frame.
6. Fasten and adjust the restraints.



Figure 6 - Ankle Restraint Attached



Figure 7 - Torso Restraints on Chair with Soft Vinyl Seating

5 - USING THE FEATURES

5.1 Chair Lock Bar

The red lock bar below the front edge of the seat disengages the lock for folding and unfolding the chair. Before seating a patient, verify that the chair is completely unfolded and the lock is engaged.

FOLDING THE CHAIR

1. Buckle the restraints and adjust them to prevent interference when folding the chair.
2. Roll the chair backward a foot or two to reverse the swivel wheels (Figure 8)
3. Stand at the side of the chair and grasp the chair backrest with one hand and the lock bar with the other hand (Figure 9).
4. Pull the lock bar forward, **then** begin folding the seat toward the backrest.

As you fold the seat, tilt the chair forward a little (Figure 10) to keep the front wheels turned outward so they will not hold the frame away from the seat and prevent the lock from engaging.

5. Press the seat against the backrest until the lock engages (Figure 11).
6. Verify the lock is engaged by pulling the seat away from the backrest without pulling the lock bar. The seat will not move if the lock is engaged.

UNFOLDING THE CHAIR

1. Stand beside the chair and grasp the backrest with one hand and the lock bar with the other hand.
2. Pull the lock bar forward, then pull the seat away from the backrest until it is fully unfolded and the lock engages.
3. Verify that the lock has engaged by holding the backrest in place while pulling up on the chair frame at the front of the seat without pulling the lock bar. The chair will not fold if the lock is engaged.



Figure 8 - Aligning the Wheels

Figure 9 - Disengaging the Lock



Figure 10 - Folding the Chair

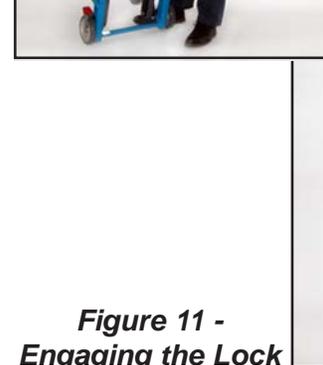


Figure 11 - Engaging the Lock

Important

The chair lock must be disengaged **before** beginning to fold or unfold the chair. Pull the lock bar forward, **then** begin to fold or unfold the chair.

5.2 Track System - Model 59-T Only

The EZ Glide track system enables operators to glide the chair down stairs instead of lifting and carrying it.

GUIDELINES FOR USING THE TRACK SYSTEM

- Using the chair on stairs requires a minimum of two trained operators. Ferno recommends using a third person as a "spotter" (see *Gliding the Chair Down Stairs*, page 18).
- Verify that the track system is fully opened and locked into place before using it.
- Never lubricate track belts. Lubricated track belts can perform unpredictably, resulting in injury to the patient and/or operators.
- Moisture, water, snow, ice, or debris on or between the track and belts can cause irregular track-belt performance that results in sudden changes in the weight operators must support. Make sure the track and track belts are clean and dry before using the chair on stairs.
- Water, snow, ice, or debris on the stairs can cause poor footing for operators. To avoid possible injury, clear the stairs or select an alternate route.

OPENING THE TRACK

1. Grasp the track-release bar located near the top of the track (Figure 12) and firmly pull it back until the track locks into the fully extended position.
2. Verify that the lock is engaged by trying to push the track closed. If the lock is fully engaged the track will not move.

CLOSING THE TRACK

With your hand, push down on the red track-closing handle (Figure 13) until the track closes completely.



Figure 12 - Opening the Track



Figure 13 - Closing the Track

! WARNING

Using the chair with the track unlocked can cause injury. Verify that the track is locked before transporting the patient.

! WARNING

Lubricating the track system can result in injury to patient and/or operators. Never lubricate the track or belts.

5.3 Extending Lift Bar

Grasp the lift bar to move and guide the chair as you glide it down stairs, carry it up stairs or over obstacles, and roll it.

The lift bar adjusts to five locked positions (Figure 14, Left). Adjust the height according to operator preference and the task or situation at hand.

EXTENDING AND RETRACTING THE LIFT BAR

1. With one hand, squeeze the lift-bar release tabs together and with the other hand grasp the lift bar and raise or lower it (Figure 14, Inset).
2. Verify that the lift bar is locked by trying to raise or lower it without squeezing the release tabs. When the lock is engaged the lift bar will not move.



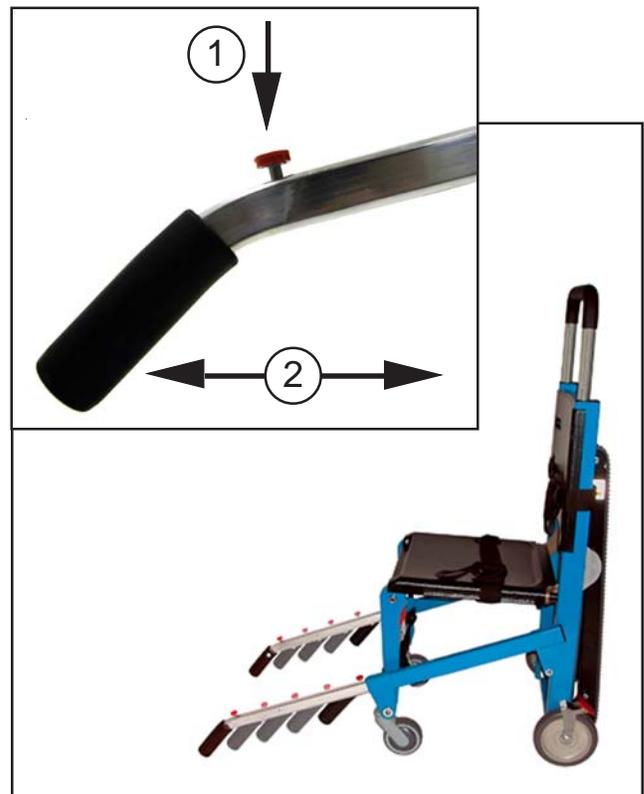
**Figure 14 - Left: Lift-Bar Positions
Inset: Adjusting Lift-Bar Height**

5.4 Telescoping Lift Handles

The telescoping lift handles can be adjusted to five locked lifting positions (Figure 15, Right). Adjust the handles according to operator preference and the task at hand.

EXTENDING AND RETRACTING THE LIFT HANDLES

1. Press the release button (Figure 15, Inset) and push or pull the handle until it is near the stop point desired.
2. Release the button and slide the handle a little forward or backward until it locks into the stop point.
3. Verify that both handles are locked by trying to push or pull them without pressing the release buttons. When the locks are engaged, the handles will not move.



**Figure 15 - Right: Lift-Handle Positions
Inset: Extending/Retracting a Lift Handle**

5.5 Footrest

The footrest has two positions: raised, for storage, (Figure 16) and lowered for use (Figure 17).

To lower the footrest, swing it down until it stops.

To raise the footrest, swing it up until it stops.

GUIDELINES FOR USING THE FOOTREST

Use the footrest properly to ensure that it does not interfere with patient's or operators' feet.

- Before transferring the patient onto the chair, make sure the footrest is raised in the storage position.
- When preparing to transfer the patient off the chair, unfasten the ankle restraint and raise the footrest into the storage position **before** unfastening the patient's torso and lap restraints. This will prevent the patient from attempting to stand before the footrest has been stored out of the way of his/her feet.
- Keep the footrest raised when it is not in use.



Figure 16 - Footrest Raised for Storage



Figure 17 - Footrest Lowered for Use

Important

Raise the footrest into the storage position **before** transferring the patient onto or off from the chair.

5.6 Wheel Locks

The rear wheels of the chair are fitted with wheel locks to help keep the chair from rolling during patient transfer.

Stay with the chair and maintain control of it at all times. Do not use the wheel locks as a substitute for operator control.

To engage a wheel lock, press down on the rear end of the lock pedal (Figure 18).

To disengage a wheel lock, press down on the forward end of the lock pedal (Figure 19).



Figure 18 - Wheel Lock Engaged



Figure 19 - Wheel Lock Disengaged

6 - USING THE CHAIR

6.1 Before Placing the Chair in Service

- ❑ Personnel who will work with the chair need to read this manual.
- ❑ Set up the chair, following instructions in *Chair Setup* (see Pages 10, 11).
- ❑ Confirm that the chair operates properly. Follow instructions in *Inspecting the Chair*, page 24.

6.2 General Guidelines for Use

- Using the chair requires a minimum of two trained operators.
- Ferno recommends that a third trained person serve as a "spotter" while the chair is being moved up or down stairs.
- Operators may need help when working with heavy loads (patient and equipment). See *Using Additional Help*, page 22, for recommended placement of operators and helpers.
- Operators work together at all times. Communicate with one another and coordinate your actions to operate the chair.
- Follow standard emergency patient-handling procedures when operating the chair.
- Stay with the patient at all times.
- Always use patient restraints.

WARNING

Improper operation can cause injury. Operate the chair only as described in this manual.

WARNING

An unattended patient can be injured. Stay with the patient at all times.

WARNING

An unrestrained patient can fall off the chair and be injured. Use restraints to secure the patient on the chair.

6.3 Transferring the Patient

Always assist the patient onto and off from the chair.

ASSISTING THE PATIENT ONTO THE CHAIR

1. Unfold the chair and verify that it is locked.
2. Engage the locks on the rear wheels.
3. Make sure the footrest is in the storage position.
4. Assist the patient onto the chair using accepted practices and following local protocols.
5. Fasten and adjust the torso and lap restraints.
6. Lower the footrest and place the patient's feet on it.
7. Fasten and adjust the ankle restraint.

ASSISTING THE PATIENT OFF FROM THE CHAIR

1. Unfasten the ankle restraint.
2. Raise the footrest to the storage position.
3. Unfasten the torso and lap restraints.
4. Assist the patient off from the chair using accepted practices and following local protocols.

6.4 Rolling the Chair

GENERAL GUIDELINES

- Roll the chair on smooth, flat surfaces whenever possible (Figure 21).
- For patient comfort, pull the chair backward over low obstacles such as door sills.
- Use the extending lift bar and telescoping foot-end handles to lift and carry the Model 59 chair over curbs, obstacles, rough surfaces and rough terrain.
- Use the tracks on the Model 59-T chair to "glide" the chair down over curbs or single steps (Figure 22).

TO ROLL THE CHAIR

1. **Head-End Operator:** Release the wheel locks.
2. **Head-end Operator:** Adjust the lift bar to a comfortable height and grasp it to push and guide the chair on all four wheels (Figure 21), or tilt the chair back and roll it on its rear wheels.
2. **Foot-end Operator:** Assist the head-end operator as needed and attend the patient.

Figure 20 - Patient Secured in Chair with Restraints



Figure 21 - Rolling the Chair



Figure 22 - Gliding the Chair Down a Curb

6.5 Gliding the Chair Down Stairs - Model 59-T Only

GENERAL GUIDELINES

- Using the chair on stairs requires a minimum of two operators. Use additional help as needed to control the chair (see *Using Additional Help*, page 22).
- Ferno recommends that the two operators face each other when transporting a patient down stairs and that a third trained person “spot” for the foot-end operator. However, the foot-end operator may face forward (with back to patient) if desired. Follow your local protocols for carrying chairs.
- Remove any water, ice, snow, or debris from the stairs before using the chair on them.
- Remove any water, ice, snow, or debris from the track and tread belts before using the chair on stairs.
- Verify that the track is locked in the open position before starting down the stairs with the chair.

GLIDING THE CHAIR DOWN STAIRS

1. **Head-End Operator:** Roll the chair to the stairs and engage the wheel locks.
2. **Foot-End Operator:** Extend the foot-end lift handles to the desired stop point. Verify that both handles are locked.
3. **Spotter:** Stand below the foot-end operator with a hand on the operator's back to help steady and guide him/her throughout the descent.
4. **Head-End Operator:** Pull the track system toward yourself until the track locks open. Verify that the track is locked.
5. **Head-End Operator:** Raise the lift bar to the desired position and verify that it is locked (Figure 23).
6. **Head-End Operator:** Disengage the wheel locks (Figure 23) and tilt the chair back.
7. **Both Operators:** Working together, guide the chair over the edge of the top step, allowing the track belts to engage the step (Figure 24).

⚠ WARNING

Using the chair with the track unlocked can cause injury. Verify that the track is locked before transporting the patient.

⚠ WARNING

Lubricating the track system can result in injury to patient and/or operators. Never lubricate the track or belts.



Figure 23 - Preparing Model 59-T for the Descent

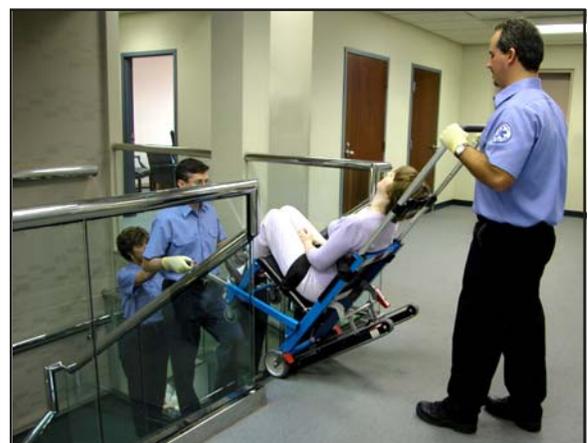


Figure 24 - Track Belts Engaging Top Step

8. Move the chair slowly downward until the tracks are resting on the top two or three steps. This establishes the glide angle (Figure 25).
9. To maintain the glide angle as you descend, work together as follows:
 - The **head-end operator** applies slight downward pressure on the extended lift bar.
 - The **foot-end operator** applies slight upward pressure on the foot-end lift handles.
10. **Both Operators:** When the chair reaches the bottom of the steps and the rear wheels are on the floor, the head-end operator tips the chair forward until all four wheels are on the floor and the foot-end operator retracts the lift handles (Figure 26).
11. **Head-End Operator:** Close the tracks and adjust the lift bar to a comfortable height, then roll the chair.

TO PAUSE DURING THE DESCENT

To pause during the descent, tilt the chair forward just enough to allow the rear wheels to rest on the step while both operators hold the chair in place (Figure 27).

To continue down the stairs, tilt the chair back to the glide angle and engage the belts on the steps.



Figure 25 - Establishing the Glide Angle



Figure 26 - Preparing to Roll the Chair

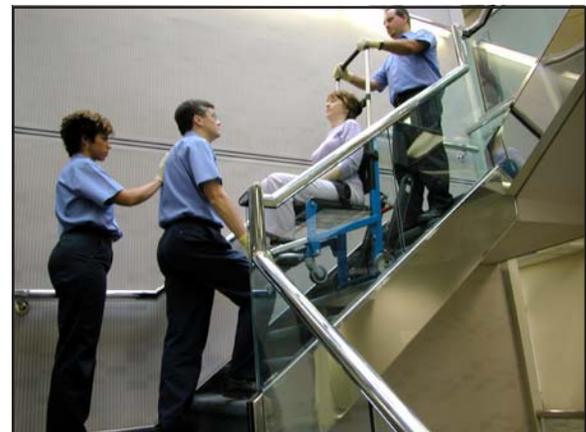


Figure 27 - Pausing on the Stairs

6.6 Transporting the Patient Down Stairs - Model 59 Only

GENERAL GUIDELINES

- Carrying the chair down stairs requires a minimum of two operators. Use additional help as needed (see *Using Additional Help*, page 22).
- Ferno recommends that the two operators face each other when transporting a patient down stairs and that a third person “spot” for the foot-end operator. However, the foot-end operator may face forward (with back to patient) if desired. Follow your local protocols for carrying chairs.

CARRYING THE CHAIR DOWN STAIRS

1. **Head-End Operator:** Roll the chair to the stairs and engage the wheel locks.
2. **Foot-End Operator:** Extend the foot-end lift handles to the desired stop point. Verify that both handles are locked and maintain your grasp.
3. **Spotter:** Stand below the foot-end operator with a hand on the operator's back to help steady and guide him/her throughout the descent.
4. **Head-End Operator:** Raise the lift bar to the desired position and verify that it is locked.
5. **Head-End Operator:** Disengage the wheel locks and tilt the chair back.
6. **Operators and Spotter:** Operators work together to lift the chair and carry it down the stairs. The spotter keeps a hand on the foot-end operator's back and provides verbal guidance (Figure 28).

Note: To pause during the descent, allow the rear wheels of the chair to rest on a step while both operators hold the chair in place (Figure 29). To continue down the stairs, tilt the chair back and lift and carry it.

8. **Operators:** At the bottom of the stairs, the operators set the chair on the floor and retract the lift handles.
9. **Head-End Operator:** Adjust the lift bar to a comfortable height before rolling the chair.



Figure 28 -Carrying the Model 59 Chair Down Stairs

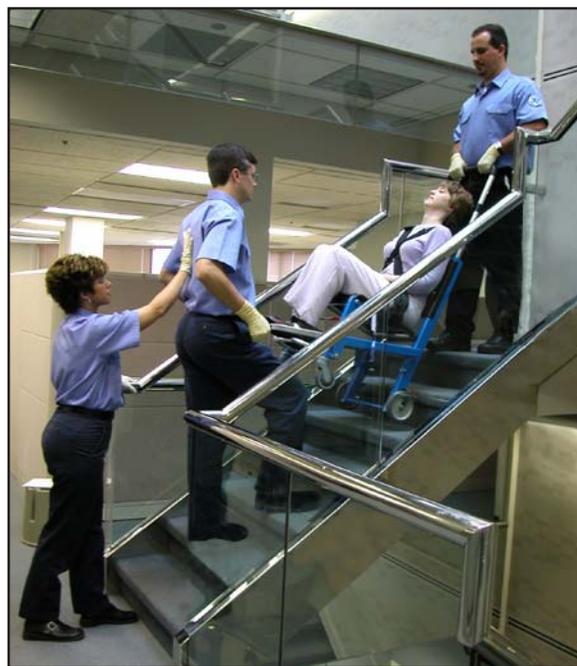


Figure 29 -Pausing on the Stairs - Model 59 Chair

6.7 Transporting the Patient Up Stairs -Models 59-T and 59

GENERAL GUIDELINES

- Carrying the chair up stairs requires a minimum of two operators. Use additional help as needed (see *Using Additional Help*, page 22).
- The two operators face each other when transporting a patient up stairs. Ferno recommends that a third person “spot” for the head-end operator. Follow your local protocols for carrying chairs.

CARRYING THE CHAIR UP STAIRS

1. **Head-End Operator:** Roll the chair to the bottom of the stairs and position it with the patient’s back to the stairs.
2. **Head-End Operator:** Extend the lift bar to the desired position and verify that it is locked.
3. **Spotter:** Stand above the head-end operator with a hand on the operator’s back to help steady and guide him/her throughout the ascent.
4. **Foot-End Operator:** Extend the foot-end lift handles to the desired position and verify that both handles are locked Figure 30).
5. **Both Operators and Spotter:** Working together, the operators grasp the lift bar and lift handles and carry the chair up the stairs. The spotter keeps a hand on the head-end operator’s back and provides verbal guidance (Figure 31).
6. **Both Operators:** At the top of the stairs, the head-end operator sets the rear wheels of the chair on the floor and rolls the chair backward until the front wheels are securely on the floor.
7. **Foot-end Operator:** Retract the foot-end lift handles.
8. **Head-End Operator:** Adjust the lift bar to a comfortable height before rolling the chair.



Figure 30 - Preparing to Carry Model 59-T (Tracked) Chair Up Stairs.

Important

The EZ Glide track system was designed to assist in descending stairs. It can be used to ascend stairs, but in some circumstances it may be easier to lift and/or carry the chair up stairs.

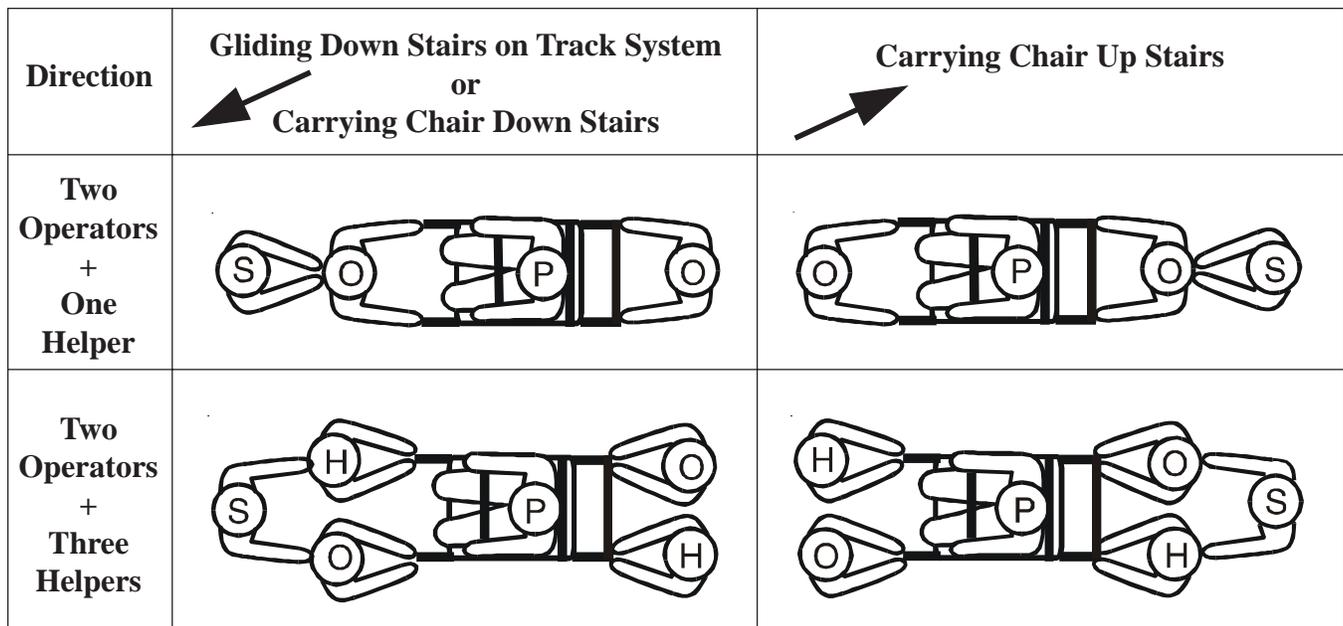
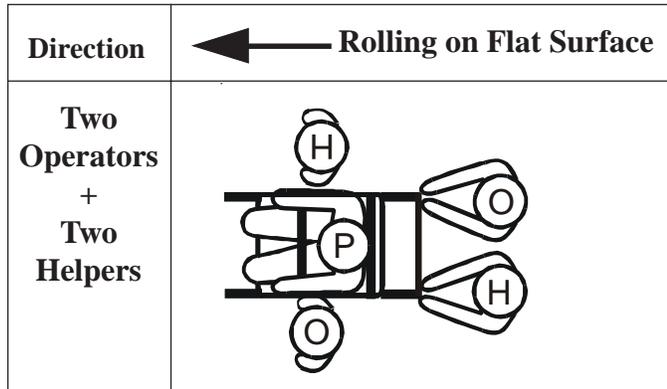


Figure 31 - Carrying the Model 59 (Untracked) Chair Up Stairs

6.8 Using Additional Help

Operating the chair requires a minimum of two trained operators. Ferno recommends that the operators and helpers at opposite ends of the chair face each other when transporting a patient up or down stairs, and that a third trained person “spot” for the lead operator. However, all applicable local protocols for carrying chairs should be followed.

The trained operators should maintain control of the chair and operate the controls, and the designated lead operator should direct all helpers. The chart below shows suggested placement for operators and helpers.



Key: O = Operator H = Helper S = Spotter P = Patient

LOAD LIMIT



Inspect the chair if the load limit has been exceeded (see *Inspecting the Chair*, page 24).

⚠ WARNING

Helpers can cause injury or be injured. Maintain control of the chair, operate the controls, and direct all helpers.

7 - MAINTENANCE

7.1 Maintenance Schedule

The chair requires regular maintenance. Set up and follow a maintenance schedule. A sample maintenance record sheet is provided on page 34. The table at the right represents minimum intervals for maintenance.

When using maintenance products, follow the manufacturers' directions and read the manufacturers' material safety data sheets.

7.2 Disinfecting/Cleaning Restraints

Ankle Restraint: Place buckled restraint in a mesh bag and launder in a washing machine using warm water, a disinfectant soap, and gentle agitation. Hang the restraint to dry. Do not put it in a dryer.

Chest and Lap Restraints: Disinfect and clean restraints as directed in the restraint users' manual.

7.3 Disinfecting/Cleaning Chair

To disinfect: Remove restraints and seat and backrest panels or soft vinyl cover. Wipe all surfaces of the chair and panels or cover with disinfectant. Follow disinfectant manufacturer's directions.

To clean: Wash panels or cover, and all parts of the chair, with warm water and a mild detergent. Rinse with clean water. Dry with a towel or allow to air-dry.

7.4 Cleaning Track and Belts

To ensure predictable belt performance, it is important to keep the track and belts free of oil, grease, dirt, and debris.

1. Hold the belts away from the track frame and remove any debris.
2. Clean both sides of the track frame, and both belts, with SD-20 All-Purpose Cleaner and a clean cloth. Follow instructions on the container.
3. Dry track and belts thoroughly.

Note: To order SD-20 Cleaner, call Spartan Chemical Company at 1.800.537.8990.

Minimum Intervals for Maintenance	Each Use	As Needed	Each Month
Disinfecting Chair - p. 23	●		
Cleaning Chair - p. 23		●	
Cleaning Track System - p. 23		●	
Inspecting Chair - p. 24		●	●
Inspecting Track System - p. 24	●	●	
Lubricating Chair - p. 25		●	

⚠ WARNING

Improper maintenance can cause injury. Maintain the chair only as described in this manual.

Important

Disinfectants and cleaners containing bleach, phenolics, or iodines can damage the chair. Use caution when disinfecting and cleaning with products containing these chemicals.

Important

Water under high pressure, or steam, penetrates joints, flushes away lubricant, and causes corrosion. Use caution when cleaning moving parts such as joints and hinges.

Important

Using abrasive cleaning compounds or applicators on the chair can cause damage. Do not use abrasive materials to clean the chair.

7.5 Inspecting the Chair

Have your service's equipment maintenance personnel inspect the chair at regular intervals. Track and track belts should be inspected after each use.

Follow the checklists on this page and work the chair through all its functions as described in this manual.

If inspection shows damage or excessive wear, remove the chair from service until repairs are made.

INSPECTION CHECKLIST FOR MODEL 59-T AND MODEL 59 CHAIRS

- Are all components present?
- Is the chair free of excessive wear?
- Are all screws, nuts, bolts, rivets, and roll pins securely in place?
- Do all moving parts operate smoothly and properly?
- Do all locks on the chair operate properly?
- Does the chair roll smoothly?
- Are the restraints properly installed?
- Is restraint webbing in good condition with no cuts or frayed edges?
- Are restraint buckles free of visible damage and do they operate properly?
- Do installed accessories operate properly without interfering with chair operation?

INSPECTION CHECKLIST FOR TRACK AND BELTS

- Are the track and belts free of lubricant, dirt and debris?
- Is there visible damage to the track or belts?
- Are inner cords of belts visible (indicating the need for replacement)?
- Are the belt-tensioning bolts and nuts tight?
- Do the belts roll properly?
- Do the track and belts perform properly?

7.6 Lubricating the Chair - Model 59-T and Model 59

Disinfect and clean the chair before applying lubricant.

There are two identical lubrication points on the chair. They are located where the brass bushing in the chair lock bar slot meets the stainless steel slide in the chair leg (Figure 32).

Lubricate each lubrication point with **one** drop of SAE 30-weight oil, then move the lock bar back and forth a few times to work the oil into the slide. Remove any excess lubricant with SD-20 Cleaner.

Note: To order SD-20 Cleaner, call Spartan Chemical Company at 1.800.537.8990.

7.7 Do Not Lubricate Track System on Model 59-T

Never lubricate the track, the track belts, or any other part of the track system. Lubricants on the belts or track can cause the chair to perform unpredictably, resulting in injury to the patient and/or operators.

A label (Figure 33) instructing the user **not** to lubricate the track system is affixed to each side of the track. If these labels become damaged or worn, replace them immediately (see *Parts and Service*, page 30).

If track or belts pick up oil or grease during use or while the chair is being serviced, clean the track and belts with SD-20 All-Purpose Cleaner before using the chair again. See *Cleaning Track and Belts*, page 23, for cleaning instructions.

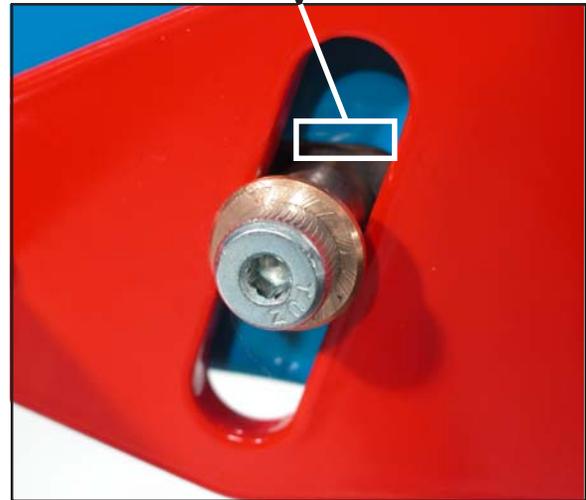
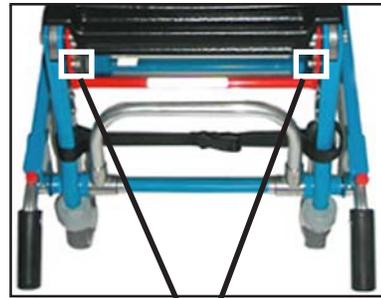


Figure 32-
Top: Lubrication Point Locations
Bottom: Lubrication Point Close-up

! WARNING

Lubricating the track system can result in injury to patient and/or operators. Never lubricate the track or belts.



Figure 33 - Label on Chair Track

7.8 Adjusting Track-Belt Tension

WHEN TO ADJUST BELT TENSION

Track belt tension needs to be adjusted when:

- a nut and bolt become loose
- a belt pulls away from the track more than 1-1/2 in. (3.8 cm) when measured using Method 1 on Page 27.
- a belt pulls away from the track more than 1 in.(2.5 cm) when measured using Method 2 on Page 27.

Important

Adjusting the belt tension is a two-person operation.

TOOLS NEEDED

- 2 ea 7/16-inch Wrench
 1 ea #4 Phillips Screwdriver
 1 ea Ruler or Measuring Tape

TENSION-ADJUSTMENT

1. Open the track and lay the chair on its back on a workbench as shown in Figure 34

OR

Stand the chair on its wheels on a workbench, then open the track and engage both wheel locks.

2. Loosen the bolt and black cap locking nut located at the top end of the track (Figure 35).
3. Slide the #4 Phillips screwdriver into the adjustment slot (Figure 35).
4. While one person tensions the belt by using the #4 Phillips screwdriver to pull the belt roller toward the top of the track, the other person uses the two 7/16-inch wrenches to tighten the bolt and nut only enough to hold the tension (Figure 36).

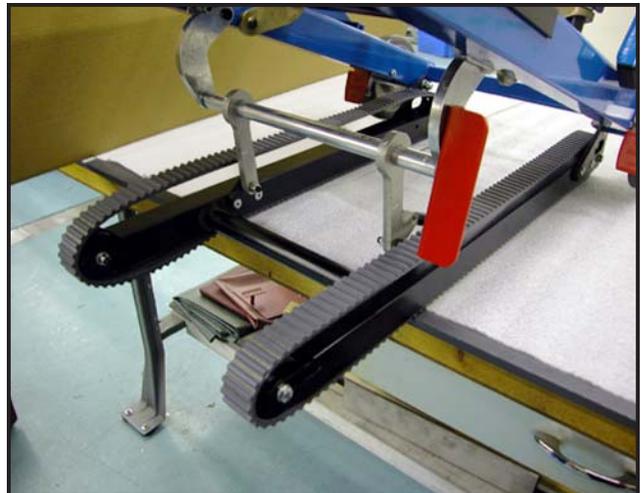


Figure 34 - Chair Positioned for Tensioning Procedure. (See Step 1 for alternate position.)

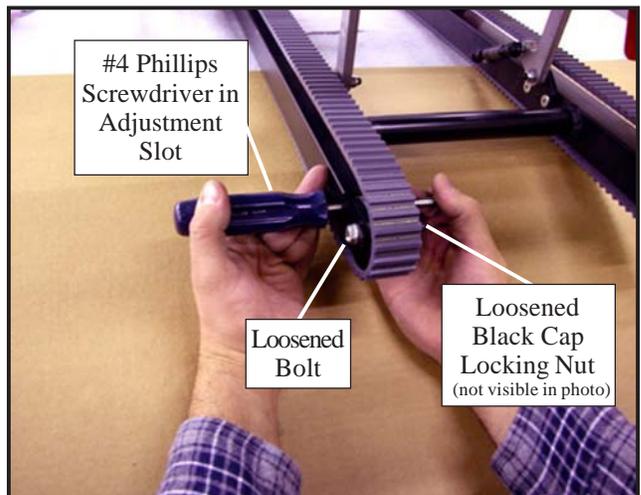


Figure 35 - Belt Ready for Tensioning



Figure 36 - Tensioning the Belt

- There are two methods for checking belt tension. You can use whichever method you prefer, but do **not** use the chair position from one method with the measurement range from the other method.

Use Method 1 (below, left) if the chair is laying on its tracks on a work bench. Use Method 2 (below, right) if the chair is standing on its wheels.

It may be necessary to repeat the tensioning and measuring one or more times to achieve the correct belt tension.

- When the belt tension is correct, finish tightening the bolt and nut to maintain the tension.
- Repeat Steps 2-6 to adjust the tension of the other track belt.

METHOD 1

Chair Must Be Laying on Its Tracks on a Work Bench

Grasp the belt at the track midpoint and pull the belt away from the track to remove any slack, then measure the distance between the exposed surface of the track and the inner surface of the belt. Take the measurement at the track midpoint.

The belt is correctly tensioned when the measurement from the exposed surface of the track to the inner surface of the belt is 1-1/4 in. to 1-1/2 in. (3.175 cm to 3.8 cm), as in Figure 37.



Figure 37 - Checking Tension with Chair Laying on Its Tracks on a Work Bench

METHOD 2

Chair Must Be Standing on Its Wheels

Grasp the belt at the track midpoint and pull the belt away from the track to remove any slack, then measure the distance between the exposed surface of the track and the inner surface of the belt. Take the measurement at the track midpoint.

The belt is correctly tensioned when the measurement from the exposed surface of the track to the inner surface of the belt is 3/4 in. to 1 in. (1.9 cm to 2.5 cm) as in Figure 38.



Figure 38 - Checking Tension with Chair Standing on Its Wheels

7.9 Reconditioning the Track Belts

Track belts need reconditioning when the inner surface becomes glassy or glazed. As this glazing occurs, the belts begin to move less freely over the steps and the belt teeth begin to skip, rather than roll, over the steps.

ITEMS REQUIRED FOR RECONDITIONING BELTS

- Permanent marker
- 50-80 grit sandpaper
- Wood block

To recondition the belts:

1. Place the chair on a workbench.
 2. Apply wheel locks.
 3. Roll the belt away from the track and mark the inner surface with a permanent marker to identify the starting point for sanding (Figure 39).
 4. Place sanding block between belt and track and move the block up and down to sand the inner surface of the belt (Figure 40).
- Note:** Take care not to sand the surface of the track.
5. Repeat steps 3 and 4 with the other belt.
 6. Secure a simulated patient weight to the chair and glide the chair down a flight of stairs to test whether the belts roll over the steps properly.

If the belts do not perform properly, you may need to re-sand them, or they may need to be replaced.



Figure 39 - Marking the Starting Point for Sanding the Belt



Figure 40 - Sand in Direction of Arrows

7.10 Removing and Attaching The ABS Panels

The molded ABS seat and backrest panels snap on and off the chair frame.

BACKREST PANEL

To remove the backrest panel: gently pull downward on the flange near one bottom corner and pull the corner of the panel away from the chair (Figure 41). Repeat at the opposite corner. Then slide the panel up off the two keepers at the top of the frame (Figure 42).

To attach the backrest panel: Orient the panel with the horizontal restraint slots uppermost. Slide the two holes in the top flange down over the keepers on the top of the backrest frame, then press both lower corners of the panel against the sides of the frame until they snap into place over their keepers.

SEAT PANEL

To remove the seat panel: Pull upward on the panel flange at each front corner to pop the panel free of the seat frame (Figure 43) then lift the panel off the chair.

To attach the seat panel: align the panel with the chair frame and press down to snap the panel onto the frame.



Figure 41 - Releasing a Bottom Corner Of the Backrest



Figure 42 - Lifting the Backrest Panel Over the Keepers



Figure 43 - Releasing a Corner Of the Seat Panel

7.11 Removing and Attaching The Soft Vinyl Seating

To remove the seating:

1. Unfasten the snap at each corner of the vinyl at the top of the backrest (Figure 44).
2. Lay chair on its back and unbuckle both retaining straps beneath the seat (Figure 45).
3. Unfasten the four snaps on the vinyl flap beneath the seat at the front of the chair (Figure 46).
4. Lift the cover off the chair and return the chair to the upright position.

To attach the seating:

1. Fasten the snap at each corner of the vinyl at the top of the backrest.
2. Lay chair on its back and fasten the buckles of both retaining straps.
3. Fasten the four snaps on the vinyl flap beneath the seat at the front of the chair.
4. Pull the free end of each buckled retaining strap until the strap is tight (Figure 47), then return the chair to the upright position.

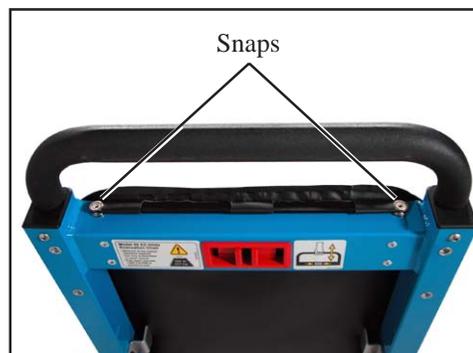


Figure 44 - Unfasten Snaps



Figure 45 - Unbuckle Straps

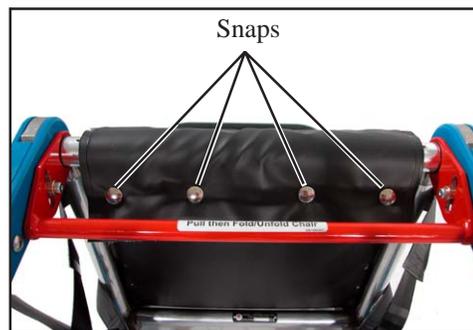


Figure 46 - Unfasten Seat Snaps



Figure 47 - Tighten Straps

8 - ACCESSORIES AND RELATED PRODUCTS

Ferno offers a full line of emergency medical service accessories (fasteners, IV poles, immobilizers, blankets, etc.). Selected items approved for use with the chair are listed here.

Always follow the instructions packed with accessories. Keep the instructions with this manual. Be aware of any special considerations (loading heights, door widths, etc.) when using accessories.

For product information, contact Ferno Customer Relations (page 34).

8.1 EZ Glide Chair Accessories

Description	Part #
Kwik Klip™ Restraint System	031-4002
IV Bag Holder Complete	082-1976
IV Bag Holder Replacement Strap	082-1972
Headrest Complete	031-4000
Head Pad Replacement	082-1971
Head Strap Replacement	082-1970
Oxygen Cylinder Holder Complete	082-1977
Oxygen Cylinder Replacement Straps	031-3661
Non-Locking Rear Lift Handles, Pair	082-1974
Non-Locking Rear Lift Handle, Right	082-2008
Non-Locking Rear Lift Handle, Left	082-2007
Locking Rear Lift Handles, Pair	082-1975
Locking Rear Lift Handle, Right	082-2010
Locking Rear Lift Handle, Left	082-2009
Secure Mount Storage Brackets (with spring release)	082-2072
Storage Bracket (with hooks)	082-2073
Vinyl Storage Cover	031-4023

WARNING

Attaching improper items to the chair can cause injury. Use only Ferno-approved items on the chair.

8.2 Restraints

Description	Part #
Ankle Restraint	082-1973
430 Restraint, 2-piece, 5 ft., black, metal buckle	031-3892
430 Restraint 2-piece, 7 ft., black, metal buckle	031-3911
430-P Restraint 2-piece, 5-ft., black, plastic buckle	031-3797
430-P Restraint, 2-piece, 7-ft., black, plastic buckle	031-3801
416 Restraint, 2-piece, 5 ft., black, metal rescue-style buckle	031-3928
416 Restraint, 2-piece, 7 ft., black, metal rescue-style buckle	031-3999
Coated Restraint, 2-piece, 5 ft., green nonabsorbent straps, metal buckle	E32032

Note: Models 430 and 430-P restraints also available in 5- and 7-ft. lengths in burgundy or orange.

9 - PARTS AND SERVICE

9.1 Parts and Service - U.S.A. and Canada

In the United States, to order parts or for professional repair, contact EMSAR® - the only agent authorized by Ferno to manage, service, and repair Ferno products. EMSAR factory-trained technicians use Ferno-approved parts and repair procedures. EMSAR has a franchise location serving you. For details, phone, fax, or visit EMSAR's web site.

1.800.73.EMSAR (Phone)
1.937.383.1051 (Fax)
www.EMSAR.com (Internet)



! WARNING

Improper parts and service can cause injury. Use only Ferno parts and Ferno-approved service on the chair.

! WARNING

Modifying the chair can cause injury and damage. Use the chair only as designed by Ferno.

9.2 Parts and Service - Worldwide

To order Ferno parts and for professional repair, contact your Ferno distributor. Your distributor is the only agent authorized by Ferno to manage, service, and repair Ferno products.

9.3 Parts List

Ref. #	Description	Part #
1	ABS Backrest panel	190-1489
2	Track-close push handle	190-1500
3	ABS Seat panel	190-1490
4	Seat bumper, pair w/hardware (n/v)	190-1501
5	Telescoping handle assy, blue	090-5837
6	Telescoping handle, grip only	190-1495
7	4" front caster, complete	190-1494
8	Rear brake assy, right	090-5838
9	6" rear wheel w/hardware	190-1493
10	Ankle Restraint	090-5840
11	Track lower roller w/hardware	190-1498
12	Rear brake assy, left (n/v)	090-5839
13	Track belt only	190-1496
14	Track upper roller w/hardware	190-1497
15	Lift bar lock assy	190-1492
16	Lift bar handle, complete	190-1491
17	Soft Vinyl Seating	090-5841
18	Gas spring assy (n/v)	190-1499
19	Label sheet and logo (n/s)	190-1502

Ref. #	Description	Part #
20	Telescoping handle assy, red	090-5842
21	Telescoping handle assy, orange	090-5843
22	Telescoping handle assy, green	090-5844
23	Telescoping handle assy, platinum	090-5845

(n/s) = not shown
 (n/v) = not visible in this photo

9.4 Parts Diagrams



10 - LIMITED WARRANTY

Limited Warranty Summary

Ferno products are warranted free from defects in material and workmanship for one year, except:

- External finishes (gelcoat, paint, powdercoat, decals, etc.) are warranted for 90 days.
- Soft goods (webbing, vinyl, fabric, foam, etc.) are warranted for 90 days.
- Fiberglass AquaCiser tanks are warranted against leakage for 5 years.
- Stainless hydrotherapy tanks are warranted against tank shell leakage and corrosion for 5 years.
- Mortuary products (except hydraulic parts and soft goods) are warranted for 2 years.
- Ambulance cots and transporters (except external finish and soft goods) are warranted for 2 years.
- EMS bags (replaceable bottom excluded) and backboards are warranted for lifetime replacement. (Damage caused by accident, abuse, misuse or improper care will be repaired at a reasonable charge for which you will be informed prior to the repair work being done.)

Ferno repairs are warranted for 90 days from the date of repair.

This limited warranty applies only when the product is used as described in the instructions provided. The warranty period begins when the product is shipped from Ferno or when you receive it if you have proof of delivery. Shipping charges are not covered by this limited warranty. Ferno is not liable for shipping damages or damages sustained through using the product.

Non-Ferno products sold by Ferno retain the product manufacturer’s original warranties. Ferno offers no warranties of any kind additional to those of the product manufacturer, nor does Ferno assume any liability for products manufactured by others.

Limited Warranty Obligation

If a product is proven defective, Ferno will repair or replace it, or, at our option, refund the item’s purchase price. In no event is Ferno liable for more than the selling price of the product. The purchaser accepts these terms in lieu of all damages.

This is a summary of the limited warranty. The actual terms and conditions of the limited warranty, and the limitations of liability and disclaimers, are available upon request by calling 800-733-3766 or 937-382-1451.

11 - FERNO CUSTOMER RELATIONS

Customer service and product support are important aspects of each Ferno product. For assistance, please contact Ferno Customer Relations:

Please have the serial number of your EZ Glide Chair available when calling Ferno Customer Relations, and include it in all written communications.

- Telephone (Toll-free)..... 1.877.733.0911
- Telephone 1.937.382.1451
- Fax (Toll-free) 1.888.388.1349
- Fax 1.937.382.6569
- Internet www.ferno.com



Serial Number _____

