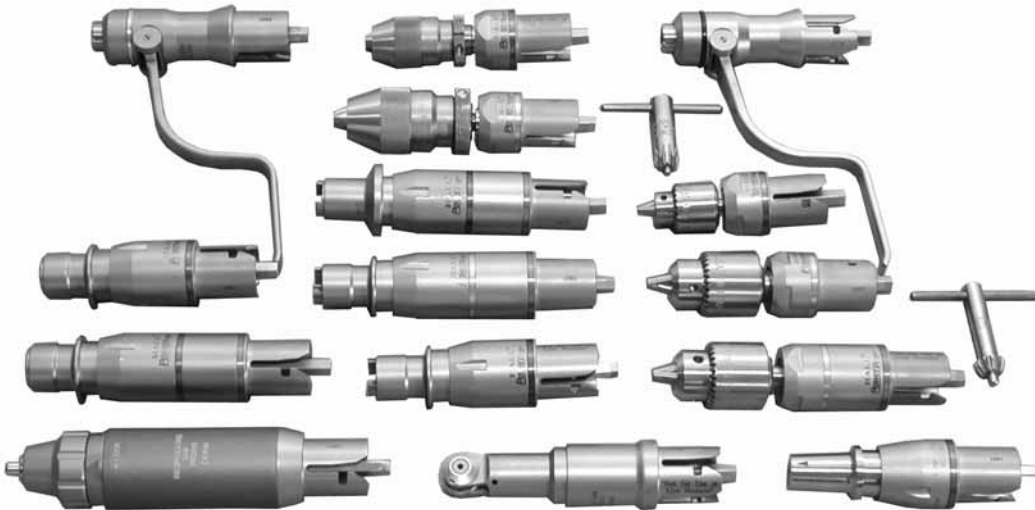


The Hall® *PowerPro*® Attachment Instruction Manual



Hall® Surgical

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1.0 INTRODUCTION

It is recommended that personnel study this manual before attempting to operate, clean or sterilize Hall® *PowerPro*® attachments. The safe and effective use of this equipment requires the understanding of and compliance with all warnings, caution notices and instructions marked on the product and included in this manual.

1.1 Intended Use

The *PowerPro* attachments are interchangeable between the battery operated and electric *PowerPro* handpieces. These attachments are used in conjunction with the *PowerPro* handpieces to perform bone cutting, reaming, drilling, driving screws, and sawing.

The fields of application for this handpiece include: Osteotomies, Trauma, Orthopedic, Total Joint Arthroplasties, Neurosurgical procedures, and Medial Sternotomy.

1.2 General Warnings

1. This equipment is designed for use by medical professionals completely familiar with the required techniques and instructions for use of the equipment. **Read and follow all warning and caution notices and instructions marked on the product and included in this manual.**

2. Do not disassemble or lubricate attachments, as this may void your warranty. There are no user-serviceable parts inside.



3. Eye protection is recommended when operating equipment.
4. Use only associated Hall® Surgical and Linvatec accessories (saw blades, bits, etc.) as defined within the descriptions of each attachment.
5. Handle all equipment carefully. If an attachment is dropped or damaged in any way, return it immediately for service.
6. Prior to each use, perform the following:
 - Inspect all equipment for proper operation.
 - Ensure all attachments and accessories are correctly and completely attached to the handpiece.











7. Always inspect for bent, dull or damaged blades or drill bits before each use. Do not attempt to straighten or sharpen. Do not use if damaged. After use, dispose of properly.



8. Continually check all attachments for overheating. If overheating is noticed, discontinue use and return equipment for service.
9. Do not attach, insert or remove accessories or attachments while the handpiece is operating. **Place the handpiece safety button to the safe position prior to installation or removal of items.**
10. All reaming attachments have a red colored ring and are not designed to be used in the screw or oscillate modes.
11. **Do not operate any saw attachment (Reciprocating Saw - PRO2045, Sagittal Saw - PRO2043) in the oscillate mode. They are only to be operated in the drill mode.**
12. After each use, thoroughly clean attachments (See “3.1 Cleaning and Sterilizing” on page 12).

1.3 Symbol Definitions

	Attention, consult accompanying documents.
	Single Use Only.
	No user service recommended. Refer servicing to qualified Linvatec service personnel.
	Indicates product component should not be sterilized.
	Indicates product component should not be immersed in any type of fluid.
	Indicates product should not be oiled or lubricated.
	Eye Protection Required.
	Caution: Federal Law restricts this device to sale by or on the order of a physician.

2.0 *PowerPro* ATTACHMENT OPERATION

PowerPro attachments, which are interchangeable between the battery operated and electric *PowerPro* handpieces, and are color coded by function for easy identification, consist of the following:

- AO Drill (PRO2070)
- AO Reamer (PRO2040)
- Reciprocating Saw (PRO2045)
- 1/8" Keyless Chuck (PRO2050)
- 1/4" Keyless Chuck (PRO2250)
- Aesculap Reamer (PRO2060)
- Zimmer/Hudson Reamer (PRO2047)
- Zimmer/Hudson Drill (PRO2046)
- Sagittal Saw (PRO2043)
- 5/32" Jacobs Chuck (PRO2030)
- 1/4" Jacobs Chuck (PRO2041)
- 1/4" High Torque Jacobs Chuck (PRO2042)
- Trinkle/AO (PRO2029)
- AO Attachment - Small (PRO2038)
- Radiolucent Drive Adapter Attachment (PRO2514)
- 3/8" Keyless Chuck Attachment (PRO2375)
- Wire Driver for Battery Handpieces (PRO5028)
- Pin Driver for Battery Handpieces (PRO5032)

2.1 Connecting and Removing Attachments

All attachments for the *PowerPro* handpieces connect/disconnect in the same manner.

1. To connect an attachment:
 - (a) Place the handpiece in the safe position.
 - (b) Orient the attachment shaft with the handpiece opening. Insert the shaft and press them until they snap together.



2. To disconnect an attachment twist the attachment collet-lock in the direction of the arrow. Remove the attachment.

2.1.1 Reaming Attachments

All reaming attachments are geared down to provide higher torque levels for acetabulum and femoral reaming, hip screws, or any procedure where high torque is necessary. All *PowerPro* reaming attachments are easily recognized by the red-colored proximal ring.

NOTE: Reaming and sawing attachments should only be used in the “Drill” mode and are not indicated to be used in the screw or oscillating drill modes.

All reaming attachments have the following specifications in the “Drill” mode:

Variable Speed: 0-420 rpm

Torque (forward and reverse): 100 in. lbs.

1. To attach accessories to Reamer attachments:
 - (a) Place the handpiece in the safe position.
 - (b) Pull the collet sleeve back and insert the accessory shank into the collet. Release the collet sleeve.

2.1.1.1 AO Reamer (PRO2040)



Specifications:

Collet: Accepts large hex AO reamers

Cannulation: 5.1 mm

Color Ring: Teal/Red

2.1.1.2 Aesculap Reamer (PRO2060)



Specifications:

Collet: Accepts Aesculap Reamers

Cannulation: 5.1 mm

Color Ring: Brown/Red

2.1.1.3 Zimmer/Hudson Reamer (PRO2047)



Specifications:

Collet: Accepts Zimmer, Hall Series 3, Hall Series 4, and Hudson accessories

Cannulation: 5.1 mm

Color Ring: Blue/Red

2.1.2 Drilling Attachments

All drilling attachment modes and specifications are as follows:

<u>Mode</u>	<u>Speed Range</u>	<u>Torque (in. lbs.) (FWD/REV)</u>
Drill	0-1250 rpm	35/35
Screw	0-250 rpm	20/35

<u>Mode</u>	<u>Speed Range</u>	<u>Oscillation Degrees</u>
Oscillating Drill	0-500 cpm	270°

1. To attach accessories to Drill and AO attachments:
 - (a) Place the handpiece in the safe position.
 - (b) Pull the collet sleeve back and insert the accessory shank into the collet. Release the collet sleeve.

2.1.2.1 Zimmer/Hudson Drill (PRO2046)



Specifications:

Collet: Accepts Zimmer, Hall Series 3, Hall Series 4, and Hudson accessories

Cannulation: 5.1 mm

Color Ring: Blue

2.1.2.2 AO Drill (PRO2070)



Specifications:

Collet: Accepts large hex style AO drill bits for Synthes DHS and DCS systems

Cannulation: 5.1 mm

Color Ring: Teal

2.1.2.3 AO Attachment - Small (PRO2038)



Specifications:

Collet: Accepts small ASIF / AO type accessories

Cannulation: 3.25 mm

Color Ring: Brown

2.1.2.4 Trinkle /AO Attachment (PRO2029)



Specifications:

Collet: Accepts Trinkle and ASIF/AO accessories

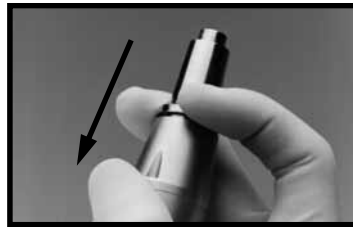
Cannulation: 3.4 mm

Color Ring: Purple

Trinkle Shank Accessories for the Trinkle/AO Attachment

1. To attach accessories to the Trinkle/AO attachment:

- (a) Place the handpiece in the safe position.
- (b) Pull the collet sleeve back.



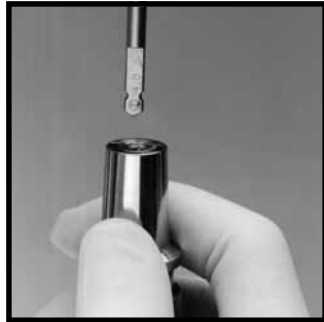
- (c) Align the dimple on the Trinkle shank with the black arrow on the outer collet sleeve. Totally insert the Trinkle shank. The spring-loaded inner sleeve will retract.



- (d) Release the collet sleeve and rotate the accessory until it is completely engaged. Pull the accessory firmly to ensure proper engagement.
- (e) To remove the accessory, pull back the outer collet sleeve and remove the accessory.

AO/ASIF Drill Bits for the Trinkle/AO Attachment

1. Align the flat portion of the drill bit shank with the black arrow on the outer collet sleeve.



2. Insert the drill bit shank into the collet as far as it will go without pulling back the collet sleeve. Twist the shank to make sure it is aligned properly, it should not spin in the collet.
3. Pull back on the collet sleeve while pushing the shank completely into the collet.



4. Release the collet sleeve. The shank is now locked into the collet. Pull the drill bit firmly to verify it is properly seated.
5. To remove the drill bit, pull back on the collet sleeve and remove the bit.

2.1.3 Jacobs Chucks

1. To attach accessories to the Jacobs Chuck attachments:
 - (a) Place the handpiece in the safe position.
 - (b) Insert the accessory shank into the chuck. Secure the chuck with the Jacobs Chuck Key.

2.1.3.1 5/32" Jacobs Chuck (PRO2030)



Specifications:

Collet: 5/32" Jacobs Chuck

Cannulation: 3.9 mm

Color Ring: Green

Replacement Key: 999-53

2.1.3.2 1/4" Jacobs Chuck (PRO2041)



Specifications:

Collet: 1/4" Jacobs Chuck

Cannulation: 5.1 mm

Color Ring: Gold

Replacement Key: 999-53

2.1.3.3 1/4" High Torque Jacobs Chuck (PRO2042)



Specifications:

Collet: 1/4" Jacobs Chuck

Cannulation: 5.1 mm

Color Ring: Gold/Red

Replacement Key: 999-53

2.1.4 Keyless Chucks

1. To attach accessories to Keyless Chuck attachments:
 - (a) Place the handpiece in the safe position.
 - (b) Insert accessory shank into chuck.
 - (c) While holding the knurled ring below the chuck, turn the knurled portion of the chuck and secure the accessory.

NOTE: The Keyless Chuck will loosen if the handpiece is operated in the reverse or oscillating drill modes.

2.1.4.1 1/8" Keyless Chuck (PRO2050)



Specifications:

Collet: 1/8" Keyless Chuck

Cannulation: 2.0 mm

Color Ring: Green

2.1.4.2 1/4" Keyless Chuck (PRO2250)



Specifications:

Collet: 1/4" Keyless Chuck

Cannulation: 4.1 mm

Color Ring: Copper

2.1.4.3 3/8" Keyless Chuck (PRO2375)



Specifications:

Collet: 3/8" Keyless Chuck

Cannulation: 4.1 mm

Color Ring: Copper

2.1.4.4 Radiolucent Drive Adaptor (PRO2514)

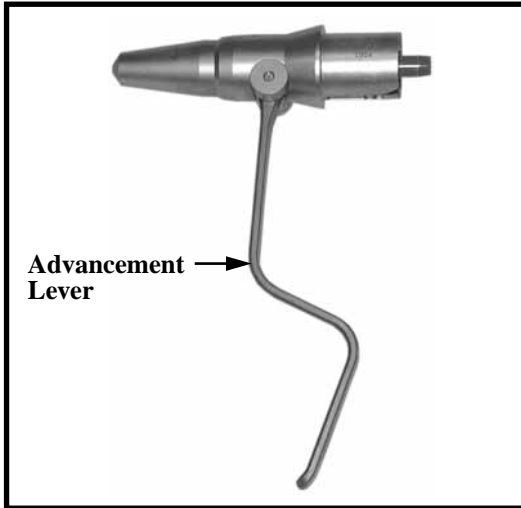


1. To attach a radiolucent drive attachment:
 - (a) Place the handpiece in the safe position.
 - (b) Slide the radiolucent drive attachment onto the adaptor until it is completely seated against the collar of the adaptor.

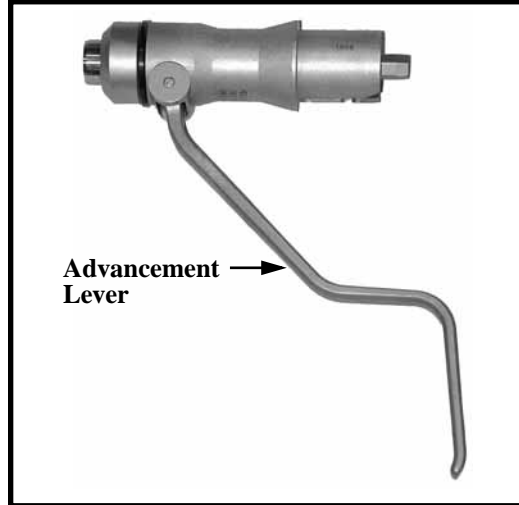


NOTE: Refer to the manufacturer's instructions on the proper use of the radiolucent drive.

CAUTION: Do not drive screws or tap holes with this adaptor.



**Wire Driver (PRO5028)
for Battery Handpieces**



**Pin Driver (PRO5032)
for Battery Handpieces**

2.1.5 Wire and Pin Driving Attachments

NOTES:

1. See the appropriate *PowerPro* handpiece instruction manual for information to insert and drive wires and pins.
2. The Wire and Pin Driving attachments should only be used in DRILL or Oscillating Drill setting and are not indicated to be used in the SCREW setting.

Wire and Pin Driving attachments have the following specifications in the DRILL setting:

Variable Speed: 0-1250 rpm

Torque (forward and reverse): 35 in. lbs.

Insertion of pins and wires, and the functionality of the handpiece with either pins or wires is the same with either attachment.

2.1.5.1 Wire Driver (PRO5028) for Battery Handpieces

Specifications:

Collet: Wire Driver

Cannulation: Accepts wires from 0.028 in. (0.71 mm) to 0.062 in. (1.57 mm)

Equipped with a Gold advancement lever

2.1.5.2 Pin Driver (PRO5032) for Electric Handpieces

Specifications:

Collet: Pin Driver

Cannulation: Accepts wires from 0.062 in. (1.57 mm) to 0.157 in. (3.9 mm)

Color Ring: Black

Equipped with a Gold advancement lever

2.1.6 Sawing Attachments

NOTES:

1. See the appropriate *PowerPro* handpiece instruction manual for information to insert and drive wires and pins.
2. Do not operate any saw attachment (Reciprocating Saw - PRO2045, Sagittal Saw - PRO2043) in the oscillate mode. They are only to be operated in the drill mode.
3. Operating speed will vary based on the power source in use.

2.1.6.1 Sagittal Saw Attachment (PRO2043)



Specifications:

Operating Speed: 0 - 26,000 cpm

Stroke: 4° arc

NOTE: The sagittal saw attachment accepts only Hall 5023 Series Sagittal Saw blades.

2.1.6.2 Reciprocating Saw Attachment (PRO2045)



Specifications:

Operating Speed: 0 - 26,000 cpm

Cutting Stroke: 0.125 inch (3.2mm)

NOTE: The reciprocating saw attachment is designed to accept Hall 5052-058 thru -061, -073, -179, -258 thru -261, -273, -276 and -279 series blades. Refer to the Hall Catalog for blade information.

3.0 MAINTENANCE




Regular and proper maintenance of your *PowerPro* attachments are the best way to protect your investment. It is essential that you have your powered surgical instruments serviced as scheduled so as to retain their optimum performance and reliability, which will reward you with safer, less problematic product performance over time. The recommended maintenance interval for service of your *PowerPro* attachments is every 24 months.

Proper care and handling of the instruments on a day-to-day basis, which includes proper day-to-day operation, cleaning, and sterilization, are extremely important to ensure safe and efficient operation.

Your authorized Hall Surgical service department is the most knowledgeable about the *PowerPro* attachments and will provide competent and efficient service. Service at Hall Surgical at the recommended service intervals is mandatory to keep your product warranties in effect. Any services and/or repairs done by any unauthorized repair facility may result in reduced performance of the attachments or attachment failure and is not recommended. See “**4.3 Linvatec and Hall® Surgical Instrument Warranty**” on page 19 for more information on product warranties.

3.1 Cleaning and Sterilizing

3.1.1 Cleaning Precautions

1. Follow universal precautions for protective apparel when handling and cleaning contaminated instruments.
2. Do not lubricate any attachments. 
3. Never immerse attachments. 
4. Never clean attachments with bleach, chlorine-based detergents, liquid or chemical disinfectants, or any products containing sodium hydroxide (such as INSTRU-KLENZ or Buell Cleaner). They will degrade the anodized aluminum coating.
5. Never clean equipment in an ultrasonic cleaner or a combination washer/sanitizer.
6. Saw blades and bits are single-use only. Do not resterilize. Dispose of properly after use. 

3.1.2 Attachment Cleaning Instructions

Clean attachments as soon as possible after use.

1. Remove the attachment from the handpiece prior to cleaning.
2. Thoroughly scrub attachments with a clean, soft brush dampened with a mild, pH-balanced detergent. Remove all traces of blood, debris and stains. **Do Not immerse** equipment in soap solution or rinse water.
3. Clean the cannulated section of the attachment by performing the following:
 - (a) Feed the wire end of a cleaning brush through the attachment.
 - (b) Pull the brush completely through the attachment. Repeat until all debris is removed.
4. Manipulate all moving parts of attachments to ensure all debris is removed. If not, clean again until all debris is removed.
5. Rinse attachments under running water to remove all traces of soap.
6. Flush all surfaces free of tap water with distilled water to prevent metal discoloration.
7. Gently shake attachments free of water and wipe the surfaces with a clean, lint-free towel.

3.1.3 Sterilization Information

Steam sterilization is safe and effective and has no contraindications for its use in sterilizing attachments.

3.1.3.1 Sterilization Warnings, Precautions and Notes

WARNING: The use of disinfecting solutions for an exterior instrument wipe will not sterilize equipment and is not recommended.

1. Do not sterilize attachments with Ethylene Oxide (EtO).
2. Never sterilize in a washer/sanitizer, STERIS System, STERRAD System, Abtox Plazlyte™ or comparable sterilization methods.
3. Do not sterilize attachments in cold sterilants like CIDEX.
4. Do Not “Peel Pack” attachments for sterilization. Sterilization in a sealed pouch traps moisture which can cause damage.
5. Attachments with collet mechanisms must be sterilized with the collet **fully open**.
6. Do not use attachments while warm. Allow adequate time for cooling prior to surgery. Do not immerse in liquid or cover with a damp cloth to cool. Cool by exposure to room temperature.

NOTES:

1. **The following guidelines do not guarantee that the device is sterile after the procedure. Your institution is still responsible for the normal sterility assurance validation.**
2. **Additional drying time may be required for complete heat and moisture dissipation. Operation of attachments that are not completely cool or dry may decrease performance and/or reliability.**
3. **Sterilization validation is based on AAMI guidelines (Association for the Advancement of Medical Instrumentation).**

All attachments may be processed in a pre-vacuum steam sterilizer (Steam Pre-vacuum) or in a gravity (downward) displacement sterilizer (Steam Gravity). Place attachments in an appropriate instrument tray or a fully perforated, wrapped container, when applicable.

PowerPro sterilization cases are sold separately. Consult the sterilization guidelines on the following page or the information insert supplied with that particular tray.

Minimum recommended sterilization exposure times are as follows:

Table 1: Sterilization Parameters

Sterilization Type	Temperature	Minimum Exposure Time	Dry Cycle
Sterilization Guidelines for Sterilizing <i>PowerPro</i> Attachments Individually or in the <i>PowerPro</i> PRO5090 System Sterilization Case			
Steam Pre-vacuum	270 - 272°F (132 - 133°C)	4 minutes	8 minutes minimum *
Steam Gravity	270 - 272°F (132 - 133°C)	10 minutes	8 minutes minimum *
Steam Gravity	250 - 254°F (121 - 123°C)	40 minutes	8 minutes minimum *
Sterilization Guidelines for Sterilizing <i>PowerPro</i> Attachments in the <i>PowerPro</i> Basic Sterilization Case (Lid - PRO2091/Tray - PRO2092)			
Steam Pre-vacuum	270 - 272°F (132 - 133°C)	4 minutes	8 minutes minimum *
Steam Gravity	270 - 272°F (132 - 133°C)	15 minutes	8 minutes minimum *
Steam Gravity	250 - 254°F (121 - 123°C)	40 minutes	8 minutes minimum *
Sterilization Guidelines for Sterilizing <i>PowerPro</i> Attachments in the <i>PowerPro</i> Complete Sterilization Case (PRO2090)			
Steam Pre-vacuum	270 - 272°F (132 - 133°C)	4 minutes	10 minutes minimum *
Steam Gravity	270 - 272°F (132 - 133°C)	15 minutes	10 minutes minimum *
Steam Gravity	250 - 254°F (121 - 123°C)	40 minutes	10 minutes minimum *
* CAUTION: The recommended dry cycle must be run on all attachments every time they are sterilized. Failure to use a dry cycle may lead to reduced product performance or premature product failure. Operation of an attachment that is not completely cool and dry may decrease performance and/or reliability.			

4.0 CUSTOMER SERVICE, REPAIRS and WARRANTY

4.1 Customer Service

If you need technical assistance regarding the use or application of this product, or you encounter a problem that requires servicing or repair, contact Linvatec Customer Service at 800-925-4255 or your Hall Surgical Representative. Outside the U.S. contact your local Linvatec Hall Representative.

Report any events involving injuries or malfunctions to the Linvatec Regulatory Affairs Department.

Returning products for any reason requires a Return Goods (R.G.) number that can be obtained by contacting Linvatec Customer Service. Please provide the following information:

- Product Number
- Serial Number
- Reason for Return
- Original Invoice Number
- Date of Purchase

Repairs

Products returned for repair must have an authorized Return Goods (R.G.) number prominently displayed on the box and included on all paperwork. Refer to this number if making inquiries about the repair status. Please call Linvatec Customer Service and provide the following information to obtain an R.G. number prior to returning a product for repair:

- Product Number
- Serial/Lot Number - if applicable
- Original Invoice Number
- Date of Purchase
- Detailed description of the problem

If you require a quote - Notify Customer Service when requesting your R.G. number, or on the paperwork returned with the product indicate that a quote is required. If a quote is not requested the repair will be processed and your account billed accordingly - provided the repair is not covered under warranty.

Minimum repair charge - There is a minimum repair charge (except for products covered under warranty). This charge also applies to products returned for repair in which a problem cannot be verified.

Whenever it is required to return your product for repairs, be sure to package it in a protective carton. We recommend that you save the original shipping container for this purpose. In-transit damage is not covered by the warranty, therefore, it is best to always insure shipments.

Returned Goods

If it becomes necessary to return a product after purchase, the product must be returned within 45 days of ship date. Returned products are subject to a restocking fee of fifteen percent (15%) of the purchase price (minimum charge \$25 U.S. Dollars). Products returned as a result of errors attributable to Linvatec are exempt from this fee.

All returns must be accompanied by an authorized Return Goods (R.G.) number which must be prominently displayed on the box and included on all paperwork.

Returns must be shipped prepaid freight, otherwise they will not be accepted. Products must be cleaned, decontaminated, and sterilized, if applicable, before returning. Products that are contaminated with biohazardous materials will be immediately returned to you for proper decontamination and sterilization.

Products Not Eligible for Credit

- Single-use, sterile products returned with the outer packaging seal(s) broken
- Products damaged by customer misuse
- Products purchased through a sales promotion
- Products damaged during return due to inadequate packaging
- Less than full packages - all products must be returned in original packaging
- Obsolete products

Linvatec

**Attn.: Customer Service Dept.
11311 Concept Boulevard
Largo, Florida 33773-4908 USA**

Customer Service

(within U.S.)	Phone:	800-925-4255
	FAX:	727-399-5256
(outside U.S.)	Phone:	727-392-6464
	FAX:	727-397-4540

Linvatec Regulatory Affairs

(within U.S.)	Phone:	800-237-0169
(outside U.S.)	Phone:	727-399-6620

4.2 Handpieces, Attachments and Accessories

<u>REF</u>	<u>Description</u>
<u>PowerPro Handpieces</u>	
PRO5100	<i>PowerPro</i> Battery Modular Handpiece
PRO5200	<i>PowerPro</i> Battery Two-Trigger Handpiece
PRO5250	<i>PowerPro</i> Battery Two-Trigger Handpiece (International)
PRO5300	<i>PowerPro</i> Battery Oscillator Handpiece
<u>PowerPro Handpiece Attachments</u>	
PRO2029	Trinkle/AO Attachment
PRO2030	5/32" Jacobs Chuck Attachment w/key
PRO2038	AO Small Attachment
PRO2040	AO Reamer Attachment
PRO2041	1/4" Jacobs Chuck Attachment
PRO2042	1/4" High Torque Jacobs Chuck Attachment
PRO2043	Sagittal Saw Attachment
PRO2045	Reciprocating Saw Attachment
PRO2046	Zimmer/Hudson Drill Attachment
PRO2047	Zimmer/Hudson Reamer Attachment
PRO2050	1/8" Keyless Chuck Attachment
PRO2250	1/4" Keyless Chuck Attachment
PRO2375	3/8" Keyless Chuck Attachment
PRO2060	Aesculap Reamer Attachment
PRO2070	AO Drill Attachment
PRO2514	Radiolucent Drive Adaptor Attachment
PRO5028	Wiredriver Attachment for Battery Handpieces
PRO5032	Pin Driver Attachment for Battery Handpieces
PRO5090	System Sterilization Case

4.3 Linvatec and Hall® Surgical Instrument Warranty

Linvatec Corporation, (“the Company”), warrants to the first purchaser or lessee (“Customer”) that the Linvatec and Hall Surgical instruments, attachments and parts manufactured by or for the Company (hereinafter collectively “Instruments”) have been tested, inspected, and shipped in proper working order.

The Company warrants all new Instruments to be free from defects in materials and workmanship for the following periods, measured from Customer’s receipt:

1. Powered Surgical Equipment (battery, electric, pneumatic) - Twelve (12) Months
2. Battery Chargers - Twelve (12) Months
3. Battery Packs - Three (3) Months
4. Burs and Blades - Upon receipt
5. Bur Guards, Blade Guards, and Attachments - Six (6) Months
6. Skull Perforators - Six (6) Months
7. Pneumatic Hoses - Six (6) Months
8. Handpiece Cords and Power Cords - Six (6) Months
9. Camera Consoles - Twenty-four (24) Months
10. Video Components - Twelve (12) Months
11. Video Cables and Light Guides - Three (3) Months
12. Non-autoclavable Camera Heads - Twelve (12) Months
13. APEX Autoclavable Camera Heads - 500 use service program (prorated credit after 250 uses)
14. Envision 1/4” Autoclavable Camera Heads - 500 uses or Twelve (12) months, whichever comes first
15. Envision Autoclavable 3CCD Camera Heads - Twelve (12) Months
16. Shutt SLG Instruments - Lifetime
17. Shutt Non-SLG Instruments - Twelve (12) Months
18. Footswitches - Twelve (12) Months
19. Irrigation Systems - Twelve (12) Months
20. Reusable Procedure Specific Instruments - Twelve (12) Months

Linvatec recommends that the Hall *PowerPro* attachments described in this manual be returned to the factory for routine maintenance every 24 months.

Failure to follow this routine maintenance schedule may result in damage to the attachments and may invalidate the product warranty.

If within the specified original warranty period, or within the service warranty period for a repaired product, the Customer discovers that an Instrument has a defect in material and/or workmanship, the Customer must promptly notify the Company. If it becomes necessary to return the Instrument to the Company, the Customer must (a) acquire a “Returned Goods” authorization from the Company Customer Service Department, (b) pack the unit carefully, and (c) return it to the Company via express courier service freight, prepaid.

Within a reasonable time after receipt of the Instrument, the Company will investigate and shall correct any defect covered by warranty by providing, at its option, one of the following: service or repair of the Instrument, a replacement of the Instrument, or a refund of the purchase price of the Instrument. All parts and assemblies replaced by the Company shall become the property of the Company. These remedies are the Customer's exclusive remedies under this warranty.

The Company warrants that all parts and assemblies used in the repair or service of Instruments meet new part functional specifications, although some parts or assemblies may have been remanufactured.

The foregoing limited warranties do not apply to:

1. Instruments which have been tampered with, altered, abused or misused.
2. Instruments damaged through use with other than Company authorized accessories, attachments, burs or blades.
3. Instruments not manufactured by or for the Company.
4. Instruments used for purposes other than those for which they were designed and manufactured, including use in any way inconsistent with the instructions and warnings contained in the Company instruction manuals and package inserts.
5. Instruments which were last serviced, refurbished, reprocessed or reconditioned by a non-authorized service entity.
6. Instruments which did not have their aforementioned routine maintenance schedule followed.

The foregoing limited warranties are in lieu of all other warranties, express or implied, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose.

Except claims for personal injury, in no case shall the Company be liable for any special, incidental or consequential damages based upon breach of warranty or any other legal theory. Some jurisdictions do not allow limits on warranties, or on remedies, and, in such jurisdictions, the limits in this and the preceding paragraphs may not apply.

The Company reserves the right (a) to make design changes to Instruments at anytime without notice to Customer and without incurring any obligation to incorporate those changes into Instruments previously purchased or leased, and (b) to make changes from time to time in the contents of any publication, instruction manual or package insert without any obligation to notify Customers of such revisions or changes.



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