



# Warranty

## Policies & Procedures

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## WARRANTY STATEMENT

The Heil Co. d/b/a Heil Environmental (“Heil”) warrants its solid waste collection equipment to be free from defects in material and workmanship under normal use performed in accordance with the product Operator Manual for a period of twelve (12) months or two thousand (2,000) hours of operation, whichever occurs first, from the date of equipment In-Service or during the period of coverage offered by a Heil-issued extended warranty program. Warranty coverage depends upon proper service and maintenance of the equipment as described in technical documentation including: Service Bulletins, Technical Service Notes, and Operation Manuals. Normal “wear parts”, routine maintenance items (such as oil and grease), and consumables are excluded from warranty coverage. All warranties offered by Heil are valid only to the original purchaser of the equipment and cannot be transferred.

This warranty is expressly limited to the repair or replacement of any component or part thereof, of any such unit manufactured by Heil that is proven to Heil’s satisfaction to have been defective in material or workmanship. Such components or parts shall be repaired or replaced at Heil’s option without cost to the standard purchaser for parts and labor provided such unit is returned to an authorized Heil Dealer for replacement or repair. The repair or replacement must be performed during the standard or extended warranty coverage period.

Before any warranty can be allowed on new equipment, a warranty registration form must be on file with Heil’s warranty department.

All OEM service parts sold by Heil have a six (6) month warranty from the date of purchase. Aftermarket parts sold by Heil Parts Central are supported by a 90-day warranty. The parts warranty covers parts only and is normally validated through parts return for factory inspection to inspect for a manufacturing defect in material or workmanship. Labor, troubleshooting, etc. is not covered under the parts warranty policy.

HEIL MAKES NO OTHER WARRANTY, EXPRESSED OR IMPLIED, AND MAKES NO WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR ANY PARTICULAR PURPOSE. HEIL DOES NOT ASSUME ANY LIABILITY FOR LOSS OF PROFITS, PRODUCT, TIME, OR ANY OTHER DIRECT, INCIDENTAL, OR INDIRECT CONSEQUENTIAL LOSSES, DAMAGES OR DELAYS. ANY IMPROPER USE, OPERATION BEYOND RATED EQUIPMENT/COMPONENT CAPACITY, SUBSTITUTION OF PARTS THAT ARE NOT HEIL APPROVED, OR ANY ALTERATION OR REPAIR BY OTHERS IN SUCH A MANNER AS IN HEIL’S SOLE JUDGMENT AFFECTS THE PRODUCT OPERATION OR INTEGRITY SHALL VOID THE WARRANTY.

Other than the extension of the standard warranty period purchased under a supplemental Heil Extended Warranty Program or specific contract terms & conditions, no employee or representative is authorized to modify this warranty in any way nor shall any other warranties be granted. However, Heil retains the right to modify its warranty program prospectively at any time.

The above warranty supersedes and is in lieu of all other warranties expressed or implied.

# GENERAL POLICIES

## Standard Warranty & Terms

Heil warrants its solid waste collection equipment and OEM service parts to be free from defects in material and workmanship under normal use performed in accordance with the product Operator Manual for a period of twelve (12) months or two thousand (2,000) hours of operation from the date of equipment In-Service or during the period of coverage offered by a Heil-issued extended warranty program, when proper service and maintenance as described in its Service Bulletins, Technical Service Notes, and Operation Manuals are performed. All warranties offered by Heil are valid only to the original purchaser of the equipment and cannot be transferred.

The warranty coverage period on Heil Equipment is based upon time (counted in calendar days) from the unit's In Service date or hours of equipment operation as indicated on the chassis hour meter. Warranty expiration occurs when either of these time periods (years or hours) has been exceeded. The typical correlation between months of service and hours of operation is: each 12-month period is equivalent to 2,000 operating hours; for example:

- 12 Months = 2,000 hours of operation
- 24 months = 4,000 hours of operation

Note: Heil does not cover claims for manufacturing defects in workmanship or parts if no warranty coverage (either standard or extended) is active.

## Extended Warranty Coverage & Terms

Extended Warranty options are available for purchase on the original sales order prior to shipment of equipment from the factory. Aftermarket Extended Warranty options (purchased after the In-Service date) may be quoted and offered upon approval from the warranty department. Aftermarket purchase of any Extended Warranty policy on a unit in service ( ) must occur at least 60 days prior to expiration of the active warranty coverage.

The Extended Warranty coverage period runs concurrently with the Standard Warranty coverage period and is effective on the equipment In-Service date.

For example:

- A DP5000 Rear Loader carries the Standard 12-month Complete Body Warranty which is active from the In-Service Date, through month 12 (or 2,000 hours).
- If a 2-year (24 month) Extended Complete Body Warranty is purchased, it will run concurrently with the Standard Complete Body Warranty and will provide an additional 12 months of coverage, months 13 through 24 (operating hours 2,001 to 4,000).
- Accordingly, a 24-month Extended Warranty adds one (1) year to the Standard Warranty.

The Warranty Start and In-Service dates can be adjusted upon warranty registration in the ESG Online Warranty System. See [WARRANTY REGISTRATION PROCEDURES](#) section in this document.

The following Extended Warranty options are quoted in the Heil MSRP Price Guide for sale at the time of initial equipment purchase:

- **Extended Complete Body Warranty** – coverage is the same as standard warranty (parts, labor, return freight, etc)



- Body / Arm structural integrity
- Body / Arm electrical systems\*\*
- Body / Arm hydraulic systems
- Body / Arm pneumatic systems
- Any Factory-installed options\* (For third party options such as cameras or weighing systems, the third party OEM manufacturers' warranty applies. Heil warranty shall apply solely to the installation work performed by Heil.)

\*\* Battery and certain electrically powered refuse collection body components are subject to limits and exclusions – see Appendix F

## Items Not Covered Under Warranty

The following list is presented as a guideline for situations or repairs which are not warrantable in any event, regardless of the type of warranty policy in effect. Additional details can be found in Appendices B and C of this document.

- Adjustments – including but not limited to: tightening of any fastening device, hose, tube, fitting, packing gland nut, jam nut, switches, cycle time, hydraulic pressure, cable tension, latch tension, etc.
- Any verifications, or adjustments necessary to ensure proper equipment operation.
- Failures resulting from a lack of equipment lubrication or maintenance.
- Failures resulting from failure to maintain clean hydraulic oil.
- Normal service items or wear items such as light bulbs, filter elements, grabber belts, bearings, slide shoes, tailgate seals, wear bars, etc.
- Hazardous waste, shop fees, shop supplies, and spill or clean up charges.
- Repairs that are related to non-authorized equipment modifications or accessory devices that are not factory-installed by Heil.
- Repairs that are not related to a defect in Heil mounted or manufactured equipment.
- Repairs resulting from failure to comply with the requirements of Heil issued bulletins and/or factory directives relative to recommended fixes or service.
- Failures related to the installation or use of aftermarket or non-Heil OEM parts.
- Chassis components and/or related failures or repairs. Please note that can include chassis battery and related components (including but not limited to charges, converters, and chassis hookups). Please consult the respective chassis maker for such issues.
- Consequential losses or damage of any kind.
- Damage due to improper or unintended use of equipment.
- Failures caused by improper, faulty, incomplete, or ineffective owner repairs including programming changes.
- Floor plan expenses or chassis/component carrying costs.
- Warranty repairs without pre-authorization as required herein.
- Repairs for units no longer owned by the original purchaser.
- Hydraulic cylinder failures resulting from abuse, improper maintenance, or modifications.
- Battery system failure resulting from abuse, misuse, improper maintenance, or modifications. See Appendix F for further information.
- Voltage converter failure resulting from abuse, misuse, improper maintenance, or modifications.

## Freight

Heil requires the return of defective parts for inspection to determine warranty eligibility. Parts must be returned either:

- **Dealer Arranged** - Freight prepaid by the dealer with Heil reimbursing documented return

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freight charges for failures covered under warranty.

- **UPS By ESG** - ESG Online Warranty System generated UPS label. For rejected warranty claims, Heil will debit the dealer's account in the amount of the UPS shipment. Note: UPS limits:
  - Packages can be up to 150 pounds. Packages can be up to 165 inches in length and girth combined. Packages can be up to 108 inches in length.

Heil does not pay outbound freight (freight to customer from Heil) or "rush charges" on warranty replacement parts. The Dealer will be responsible for outbound freight charges applied to all replacement parts. Replacement parts may be included in regular stock orders to take advantage of any free shipping which may be offered by Parts Central. No "freight collect" shipments of returned goods will be accepted. All return parts must be shipped to the proper warranty return center shown on the RGA.

## **Contingent, Incidental & Consequential Expenses**

Heil does not pay for contingent, incidental, or consequential expenses such as, but not limited to: travel time, travel mileage, travel expenses, transportation charges, towing charges, equipment rental, loss of use charges, floor plan charges, troubleshooting time, shop supplies, environmental charges, etc.

## **WARRANTY REGISTRATION PROCEDURES**

### General Policy

The Heil Dealer will perform the warranty registration in the ESG Online Warranty System after completing the Pre-Delivery Inspection (PDI).

### Procedures

The Warranty Registration must be completed in the ESG Online Warranty System within (30) thirty days of the equipment in-service date to obtain credit (currently \$50) for performing the Warranty Registration process timely.

### In-Service Date

Warranty coverage begins on the date of invoice from Heil to the Dealer. Upon completion of PDI and warranty registration, the start date may be reset up to a maximum of 30 days after the invoice date. Warranty start date adjustments beyond 30 days must be reviewed for approval in light of extraordinary circumstances. Adjustments of 60 days or beyond may incur additional cost to extend the standard warranty coverage.

## **WARRANTY CLAIMS**

### **Dealer Responsibilities**

The Dealer is responsible for the processing of customer warranty claims, repair parts, obtaining Pre-Authorization for unusual work or extra time allowances in advance of performing the work, and any credits required to complete the warranty transaction between Heil and the customer.

**It is the responsibility of the Dealer to ensure that all warranty claims submitted on the customer's behalf are valid.** Submitting claims that are obviously not covered by warranty adds unnecessary cost, administrative time, and shipping charges that should be avoided. Any signs of abuse, misuse, or fraudulent warranty activity should be reported to ESG for further investigation.

Customers rely on Heil Dealers for technical advice. In this capacity as a service advisor, customers should be discouraged from filing for warranty coverage if damage to a unit is, in the dealer's judgement, not covered under warranty including:

- Damage resulting from: lack of maintenance, abuse, misuse, improper operation, unauthorized alterations, or an accident.
- Unit is no longer covered under the standard or extended warranty period for the defect described.

If the customer insists on filing a warranty claim in pursuit of goodwill coverage, the claim should be entered as usual and include the dealer's warranty coverage recommendation.

Heil Dealers are responsible for submission of complete warranty claims and including any required supporting documentation. All Warranty claims must be submitted via the ESG Online Warranty System.

Occasionally, Heil authorizes warranty repairs to be performed by the end customer. In this situation, the warranty claim, including any associated labor reimbursement, must be filed through the organization from which any replacement parts were obtained. The rate of labor reimbursement will be the established rate between Heil and the Dealer unless a lower cost subcontractor was used.

## Warranty Claim Types

There are 3 basic types of warranty claims selectable for filing with in the ESG Online Warranty System:

- **Campaign Claim** – warranty request against a specific Heil service bulletin or repair campaign. The campaign number must be provided for proper warranty filing.
- **Machine Claim** – warranty request against the complete body warranty (standard or extended) policy or any add-on extended warranty coverages (if available) such as 5 year cylinder warranty, 3 year pump and valve warranty, or any warranty coverage added as the result of a CUSTOM option.
- **Parts Claim** – warranty request against the OEM or Aftermarket service parts warranty for parts purchased from Parts Central which failed within the warranty window. This warranty does not cover improperly installed parts.

## Filing a Warranty Claim

It is recommended that a unit's In-Service date be verified in the ESG Online Warranty System prior to submitting a warranty claim to Heil. If a claim is submitted on a unit that is not within the standard or extended warranty coverage period, and no pre-authorization was requested, the claim cannot be processed. Goodwill requests should be submitted as a pre-authorization.

The ESG Online Warranty System will guide the submission of warranty claims to ensure that the required information is included. In preparation to file a claim, please ensure that you have the following information available:

- Body Serial Number
- Causal Part – the primary failed part involved in the claim (**one part # per claim**)
- Work Order Number – internal number used by Heil Dealers
- Carrier for Parts Shipment (select UPS by ESG or Dealer Arranged)
- Date of Parts Purchase (parts claims only)
- Date of Failure
- Date of Repair
- Defect Code
- Defect Code Comments
- Fault Code
- Fault Code Comments
- Fault Location



- Work Performed Comments
- Parts Installed with quantity
- Labor hours expended
- Parts Mark-Up documentation if repair part was in local stock prior to the failure date (see [Parts Mark-Up](#) section)
- Any additional documents, pictures, or videos which would be helpful to document the failure and/or explain the repair.\*

\* Each warranty claim must “stand on its own” in terms of documentation meaning that any emails, pictures, videos, pdf, etc that are needed to tell the story, should be attached for review. Examples include: parts invoices, return freight bills for hydraulic cylinders, invoices for any outside vendors, communication to the dealer from the Heil sales team, etc. The warranty team CAN look-up cases opened with Tech Services if a case / ticket number is provided in the claim.

## Pre-Authorization

All requests for non-standard or goodwill reimbursement outside of the warranty policy are handled via the Pre-Authorization process in the ESG Online Warranty System. It is important to note this pre-approval must be obtained before performing the work.

Examples include:

- The unit is outside the standard or extended warranty period for the repair.
- Repair times are expected to exceed the Standard Repair Time flat rate labor hours listed.
- A complex, non-standard repair is required with no defined flat-rate hours.
- Any repair using non-OEM parts for a warranty repair.
- Any request for goodwill coverage including exceptions for: mileage, materials, etc

## Understanding Warranty Status

Shown in process order

- **Draft** – claim has been started by the dealer but not submitted
- **Submitted Pending Evaluation** – claim has been submitted for Heil to review
- **Pending TSM Review** – claim requires additional review from Technical Service Manager for policy exceptions (typically hours or policy)
- **TSM Approved** – claim has had a technical review and is approved for further processing review but the warranty team; final approval or rejection has not been determined
- **Part Return Requested** – Heil requests return of part for evaluation
- **Additional Information Req'd** – waiting on additional information from dealer to process claim
- **Part Pending Evaluation** – part failure under evaluation for manufacturing defect
- **Part Rejected** – part was not found to have a manufacturing defect
- **Re-Opened** – claim in edit stage by Heil
- **Warranty Credit Pending** – claim is approved for payment and credit will be applied to account in the next payment cycle (typically 2 to 3 times per week)
- **Paid** – Credit applied to account
- **Rejected** – Warranty claim rejected
- **Appealed** – Dealer has provided additional information and requested a second review of the claim by the Senior Director of Service

## Appealing a Rejected Claim

If a claim is rejected, or otherwise not resolved to the satisfaction of the Dealer and/or End User, the claim may be appealed within 30 days of the rejection date in the ESG Online Warranty System.

- The appeal request should include any additional supporting documentation available. Any claim which remains inactive for 45 days or more will be rejected and closed.
- A claim is inactive when no follow-up communication from the dealer has occurred in response to a request for additional information or parts return.

## OEM Parts Warranty

- a) OEM service parts sold by Heil will be warranted for a period six (6) months from the date of purchase. OEM parts must be used for warranty repairs. Warranty coverage will be approved if factory inspection reveals a defect in material or workmanship. The service parts warranty covers "parts only"; freight, labor, outside materials, travel time, troubleshooting time, etc. do not qualify for warranty reimbursement under the service parts warranty policy.
- b) Warranty replacement parts must be purchased directly from Parts Central, or a Heil Dealer to be eligible for reimbursement. Invoice numbers for parts purchased must be provided for verification.
- c) Warranty claims submitted for service parts must include the Heil Parts Central invoice number for verification. A copy of the final invoice from the dealer to the customer is also required to verify the part warranty coverage start date. If the invoice to the customer is not attached to the claim, it will be denied.
- d) As noted, replacement parts that are purchased from outside sources (non-OEM) are not eligible for warranty consideration unless the purchase was pre-authorized via the ESG Online Warranty System due to extenuating circumstances. In such cases, a copy of the invoice showing the purchase price of the part must be attached to the claim when it is submitted for warranty consideration. The use of non-OEM parts is "at-your-own-risk" and the subsequent failure of such "non-Heil" components will not be warrantable. Any cascading or consequential failures caused by aftermarket parts will not be covered by Heil and in the case of aftermarket hydraulic components, may void the warranty on the entire hydraulic system connected to the aftermarket component.

## Warranty Parts Returns

Heil's standard policy for all warranty claims involving parts is to have the parts returned for inspection as part of the warranty process. Warranty claims are not complete until the defective parts are returned for inspection. See Appendix D for the Parts Return Timeline.

Heil may elect to waive this requirement if, in Heil's judgement, returning the part is determined to be impractical.

The following guidelines apply when the return of a failed part is waived:

- If the part has a serial number, at least one photo must be provided clearly showing the serial number
- Heil may request a photo of the failed part, with specific properties as prescribed by Heil (e.g. photo must show the ruptured portion of an hydraulic line in clear, close-up detail.)
- Dealer must retain the failed part until the claim process is completed (paid or rejected). Claim will be rejected if failed part is not available for inspection.
- If Heil has not requested the return of parts when the claim is closed, the parts must be made unusable and scrapped. Heil may require verification (pictures, etc) to confirm.
- Heil may require return of a representative section of the failed part.

All returned parts must be complete (not disassembled), securely packaged for shipment, with the shipper document containing the Claim Number for reference and tracking. Any damage incurred during shipment is the responsibility of the freight carrier.

For all part returns, fluid should be drained, ports securely plugged, and end caps applied to avoid environmental damage due to leakage.

**- IMPORTANT -**

Claims are not considered complete and will not be processed until requested parts have been returned for inspection.

## WARRANTY REIMBURSEMENT

Heil provides reimbursement for warranty repairs as a credit issued to the account of the organization submitting the claim. A copy of all credit memos for reimbursements will be provided via email.

**It is the responsibility of the Dealer to contact Heil's Credit Manager and make arrangements to have Heil-issued credits applied to any specific outstanding account balance.**

### Labor Rate

Heil's authorized reimbursement rate for a dealer in good standing is 100% of the Dealer's approved retail rate. If a Dealer is in a probationary status for any reason at the time of claim submittal, reimbursement may be reduced to 70% of the Dealer's approved retail rate with written notice.

Requests to increase an established warranty labor rate, should be made via email to the warranty department. For consideration, please include copies of four (4) different customer invoices that show the total number of hours and total amount charged for labor using Heil's Flat Rate Charts. The invoices must be dated within thirty (30) days from the date of request to Heil. Labor rate changes are not retroactive, and only one labor rate increase will be approved during any twelve (12) month period.

### Standard Repair Labor Hours

Heil will reimburse the amount of time needed to complete repairs based upon the Standard Repair Times (SRT) labor codes shown in the Appendix. Should repair times become expected to exceed the Standard Flat Rate labor hours a Pre-Authorization must be obtained via the ESG Online Warranty System. Labor hours expended beyond the Standard Flat-rate Repair Times, shall not be paid without prior authorization. See Appendix A for details

### Parts Mark-Up

Heil will credit a 10% parts mark-up on parts used for machine claim warranty repairs under the following conditions:

- Dealer has the parts needed for the repair in-stock at least 7 days prior to the failure date.
- Documentation of parts order is attached to the warranty claim.
- Final determination of "in-stock" status and eligibility for Parts Mark-up credit shall be made in Heil's sole judgement.

## Appendix A – Standard Repair Times

Line#	Section	PART	Fault Code	Front Loader	Rear Loader	Command SST	Python	Rapid Rail
1	COMPONENT, ELECTRICAL	AIR/ELECTRIC JOYSTICK	305	1.0		1.0	1.0	1.0
2	COMPONENT, ELECTRICAL	ARC SENSOR	304	1.0		1.0		1.0
3	COMPONENT, ELECTRICAL	BACKUP ALARM	308	1.0	1.0	1.0	1.0	1.0
4	COMPONENT, ELECTRICAL	CONTROL PANEL LIGHT	300	1.0	1.0	1.0	1.0	1.0
5	COMPONENT, ELECTRICAL	ELECTRIC JOYSTICK	305	1.0		1.0	1.0	1.0
6	COMPONENT, ELECTRICAL	ELECTRIC TOGGLE SWITCH	305	1.0	1.0	1.0	1.0	1.0
7	COMPONENT, ELECTRICAL	ELECTRIC/AIR SOLENOID	224	1.0	1.0	1.0	1.0	1.0
8	COMPONENT, ELECTRICAL	ELECTRIC/HYDRAULIC SOLENOID	306	1.0	1.0	1.0	1.0	1.0
9	COMPONENT, ELECTRICAL	EXTERIOR LIGHTS	308	1.0	1.0	1.0	1.0	1.0
10	COMPONENT, ELECTRICAL	HEIL BOX	300					2.0
11	COMPONENT, ELECTRICAL	HUSCO BOX	300					2.0
12	COMPONENT, ELECTRICAL	LIMIT SWITCH	305	1.0	1.0	1.0	0.5	1.0
13	COMPONENT, ELECTRICAL	PLC BOARD (INTERFACE)	301				1.5	
14	COMPONENT, ELECTRICAL	PLC BOARD (INTERFACE) –PDC box	301		2.0			
15	COMPONENT, ELECTRICAL	PLC/IFM ASSEMBLY	301	1.5	1.0	1.5	1.0	1.5
16	COMPONENT, ELECTRICAL	PRESSURE SWITCH	305	2.0	1.0	1.0	1.0	1.0
17	COMPONENT, ELECTRICAL	PROXIMITY SWITCH	304	1.0	1.0	1.0	1.0	1.0
18	COMPONENT, ELECTRICAL	PTO	213	6.0	6.0	6.0	6.0	6.0
19	COMPONENT, ELECTRICAL	PUSH BUTTON CONTROL SWITCH	305	1.0	1.0	1.0	1.0	1.0
20	COMPONENT, ELECTRICAL	RELAY	300	1.0	1.0	1.0	1.0	1.0
21	COMPONENT, ELECTRICAL	RESI ARM HARNESS REPLACE	300	4.0				
22	COMPONENT, ELECTRICAL	TAILGATE/BODY UP BUZZER	300	1.0	1.0	1.0	1.0	1.0
23	COMPONENT, ELECTRICAL	WINCH MOTOR	600		2.0			
24	COMPONENT, HYDRAULIC	ACTUATOR, HYDRAULIC (ARM)	306			3.0		
25	COMPONENT, HYDRAULIC	ARM CYLINDER	206	2.5				
26	COMPONENT, HYDRAULIC	BODY HOIST CYLINDER	206	1.0		1.0	1.0	2.0

27	COMPONENT, HYDRAULIC	CHECK VALVE	221				1.0	
28	COMPONENT, HYDRAULIC	DUMP CYLINDER	206					2.0
29	COMPONENT, HYDRAULIC	DUMP VALVE (FULL EJECT "only")	215	2.5		2.5	2.5	2.5
30	COMPONENT, HYDRAULIC	EJECT CYLINDER	207		4.0			
31	COMPONENT, HYDRAULIC	EJECT UNLOAD VALVE	215		2.0			
32	COMPONENT, HYDRAULIC	FORK CYLINDER	206	2.0				
33	COMPONENT, HYDRAULIC	GRABBER CYLINDER	206			2.0	1.5	2.0
34	COMPONENT, HYDRAULIC	GRIP CYLINDER	206			2.0	1.5	2.0
35	COMPONENT, HYDRAULIC	HYDRAULIC PUMP	212	4.0	4.0	4.0	4.0	4.0
36	COMPONENT, HYDRAULIC	HYDRAULIC TUBES - OTHER	203	2.5	2.0	1.0	1.0	1.0
37	COMPONENT, HYDRAULIC	HYDRAULIC TUBES - UNDERBODY	203	2.0	2.0	2.0	2.0	2.0
38	COMPONENT, HYDRAULIC	LIFT CYLINDER	206			2.0	1.5	2.0
39	COMPONENT, HYDRAULIC	LIFT VALVE ASSEMBLY	215			8.0	3.0	3.5
40	COMPONENT, HYDRAULIC	MAIN CONTROL VALVE ASSY	215	8.0	2.0	3.5	3.0	3.5
41	COMPONENT, HYDRAULIC	MAIN PRESSURE SUCTION HOSE	202	2.5	2.5	2.5	2.5	2.5
42	COMPONENT, HYDRAULIC	PACKER VALVE ASSEMBLY	215	8.0	2.0	3.5	3.0	3.5
43	COMPONENT, HYDRAULIC	PACKING / SWEEP CYLINDER	206	6.0	2.0	4.0	4.0	4.0
44	COMPONENT, HYDRAULIC	PO CHECK VALVE	221					1.0
45	COMPONENT, HYDRAULIC	REACH CYLINDER	206			2.5	2.0	2.0
46	COMPONENT, HYDRAULIC	REEVING CYLINDER	206		2.0			
47	COMPONENT, HYDRAULIC	REGENERATIVE VALVE	220	2.5	1.5	2.5	2.5	2.5
48	COMPONENT, HYDRAULIC	STANDARD HOSE	202	1.0	1.0	1.0	1.0	1.0
49	COMPONENT, HYDRAULIC	TAILGATE LOCK CYLINDER	206	2.0	2.0	2.0	2.0	2.0
50	COMPONENT, HYDRAULIC	TAILGATE RAISE CYLINDER	206	1.0	1.0	1.0	1.0	1.0
51	COMPONENT, HYDRAULIC	TAILGATE VALVE ASSEMBLY	215	3.0	3.0	3.0		
52	COMPONENT, HYDRAULIC	TOP DOOR CYLINDER	206	2.0	2.0	2.0	2.0	2.0
53	COMPONENT, HYDRAULIC	UNDER BODY VALVE	215	8.0	4.0	See Lift Valve		
54	COMPONENT, HYDRAULIC	UPPER PANEL CYLINDER	206		3.0			
55	COMPONENT, HYDRAULIC	VALVE/RELIEF CARTRIDGE	215	1.0	1.0	1.5	1.0	1.0

56	COMPONENT, PNEUMATIC	AIR ACTUATOR CYLINDER	205	1.0	1.0		1.0	
57	COMPONENT, PNEUMATIC	AIR CONTROL VALVE ASSY.	306	1.0	1.0		1.0	
58	COMPONENT, PNEUMATIC	AIR CONTROL VALVE SECTION	215	2.0	2.0		1.5	1.0
59	COMPONENT, PNEUMATIC	AIR CYLINDER	205	1.0	1.0			1.0
60	COMPONENT, PNEUMATIC	AIR JOYSTICK	305	1.0			1.0	
61	COMPONENT, PNEUMATIC	AIR TOGGLE SWITCH	305	1.0	1.0		1.0	1.0
62	STRUCTURE, BODY	ACTUATOR, PACKER (CP Body)	224					8.0
63	STRUCTURE, BODY	EJECT PANEL	107		4.0			
64	STRUCTURE, BODY	FOLLOWER PANEL	107			6.0	6.0	
65	STRUCTURE, BODY	LOWER / SWEEP PANEL	107		8.0			
66	STRUCTURE, BODY	PACKER PANEL / CP PADDLE	107	5.0		5.0	5.0	6.0
67	STRUCTURE, BODY	TAILGATE ASSY	112	6.0	9.0	6.0	6.0	6.0
68	STRUCTURE, BODY	TAILGATE WELDMENT	112	8.0	9.0	8.0	8.0	8.0
69	STRUCTURE, BODY	TOP DOOR	103	4.0		4.0	4.0	
70	STRUCTURE, BODY	UPPER PANEL	115		10.0			
71	STRUCTURE, LIFT	CARRIAGE	702					12.0
72	STRUCTURE, LIFT	CYLINDER PIVOT LINK	207				2.0	
73	STRUCTURE, LIFT	DUMP ARM ASSEMBLY	707				4.0	
74	STRUCTURE, LIFT	DUMP ARM WELDMENT	707				6.0	
75	STRUCTURE, LIFT	FORKS	705	3.0				
76	STRUCTURE, LIFT	H-BEAM	707				12.0	
77	STRUCTURE, LIFT	LEVEL LINK	707				2.0	
78	STRUCTURE, LIFT	LIFT ARM ASSEMBLY	707			2.0	4.0	10.0
79	STRUCTURE, LIFT	LIFT ARM WELDMENT	707			4.0	8.0	8.0
80	STRUCTURE, LIFT	LIFT ARM, FEL CLAMP-ON	706	4.0				
81	STRUCTURE, LIFT	LIFT ARM, FEL WELD-ON	706	5.0				
82	STRUCTURE, LIFT	LIFT BASE	707				25.0	25.0
83	STRUCTURE, LIFT	LINK CHANGE	707				2.0	
84	STRUCTURE, LIFT	REACH PIVOT LINK	707				3.0	

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## Appendix B – Wear Items List

### Side Loaders

• Cylinder seal and bearing kits	• Grabber pads and belts
• Track wear bars	• Grabber arms and rollers
• Packer wear bars	• Grabber gears (exposed type)
• All pins	• Arm rests (where applicable)
• All bushings	• Air actuator seals
• All other bearings including Shur-Lock® tailgate bronze bearing	• Rollers and guides where applicable
• Chassis rail pad	• All valve seals and o-rings
• Body guides	• All o-rings
• Tail gate seal	• Pump drive-line u-joints
• Limit switch rollers	• Filters, strainers and breathers
• Follower panel rollers	• All gaskets
• Follower panel guides and track	• Brake pads, shoes, air chambers
• Oil seals	• Tires where applicable
• Grease	• Mud flaps
• Cables	• Anti-spray material
• Rubber skirting	• Augers
• Quick disconnects	• All chains

### Front Loaders

• Cylinder seal and bearing kits	• Air actuator seals
• Track wear bars	• All o-rings
• Packer wear bars	• Pump drive-line u-joints
• All pins	• Filters, strainers and breathers
• All bushings	• All gaskets
• Arm cross-shaft bearings	• Hydraulic oil
• Fork cross-shaft bearings	• Grease
• All other bearings including ShurLock® tailgate bronze bearing	• Mud flaps
• Chassis rail pad	• Rubber skirting
• Body guides	• Anti-spray material
• Tail gate seal	• Quick disconnects
• Arm bumper	• Valve seals and o-rings
• Fork bumper	• Limit switch rollers

### Rear Loaders

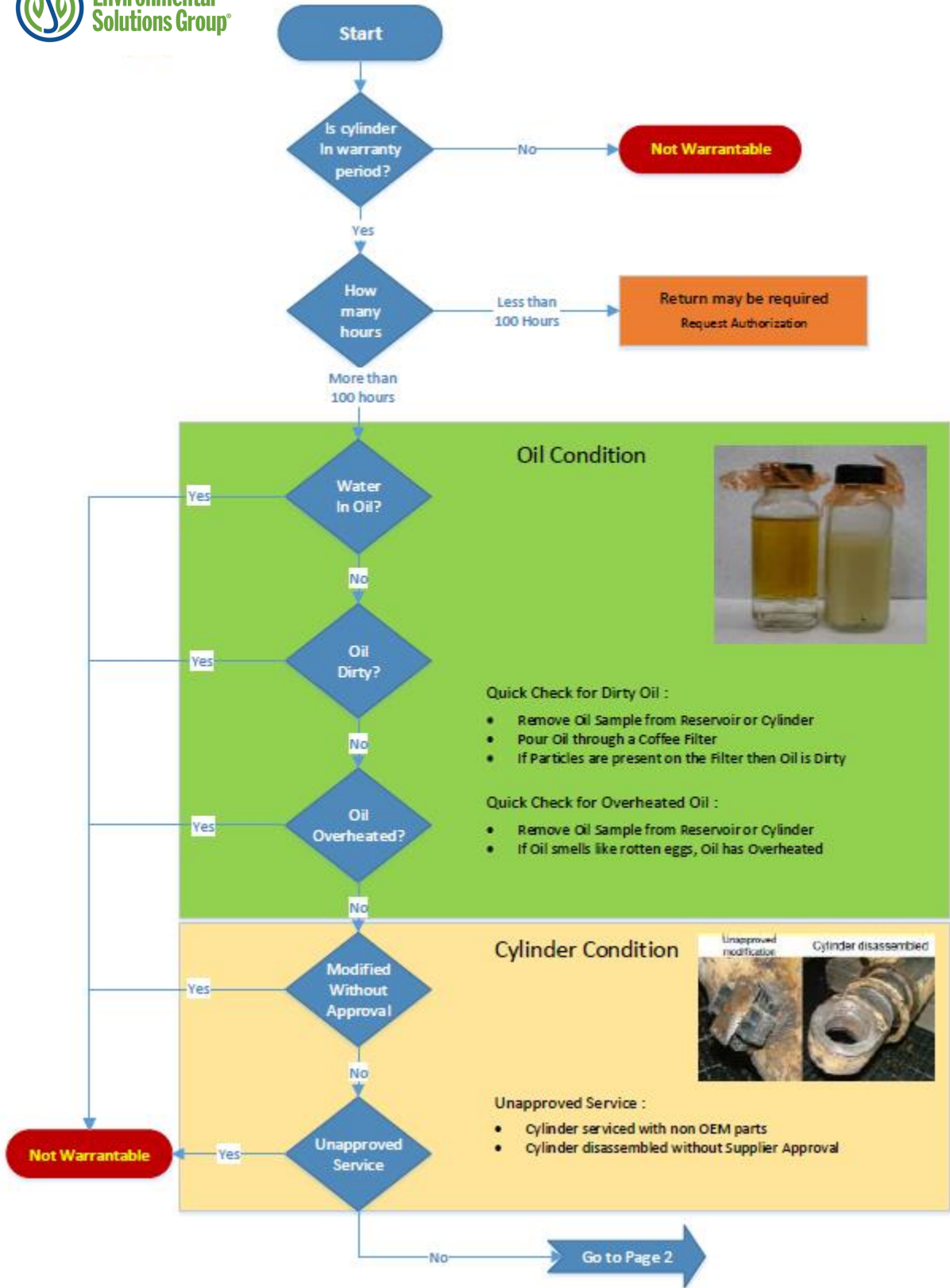
• All pins and bushings	• Body guides and pads
• Slide block on tailgate and/or Ejector panel	• Kick-out actuators on control system
• Track wear bars, tailgate and body	• Control handles
• Inner and outer slide bearings	• Limit switch rollers
• Tail gate seal	• Hopper floor, sides and liners
• Turnbuckle bearings	• Valve seals and o-rings
• Cylinder seal and bearing kits	• All o-rings
• Cables on winch or reeve system	• Pump drive-line u-joints
• Rollers on roll bars	• Filters, strainers and breathers
• Latch bars	• All gaskets
• Bumpers	• Hydraulic oil
• Cable rollers and pulleys on Reeve winch	• Grease
• Slide bearings on reeve system	• Mud flaps
• Rubber skirting	• Anti-spray material
• Quick disconnects	



# Appendix C – Cylinder Decision Tree

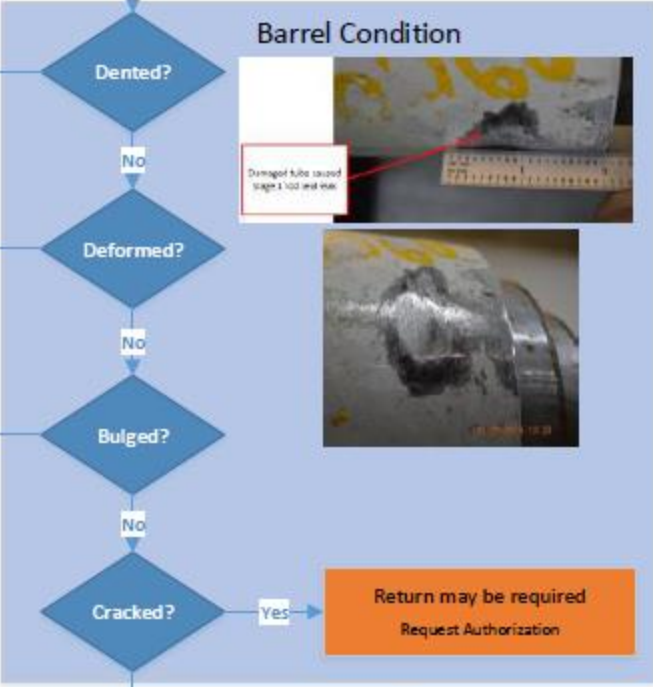
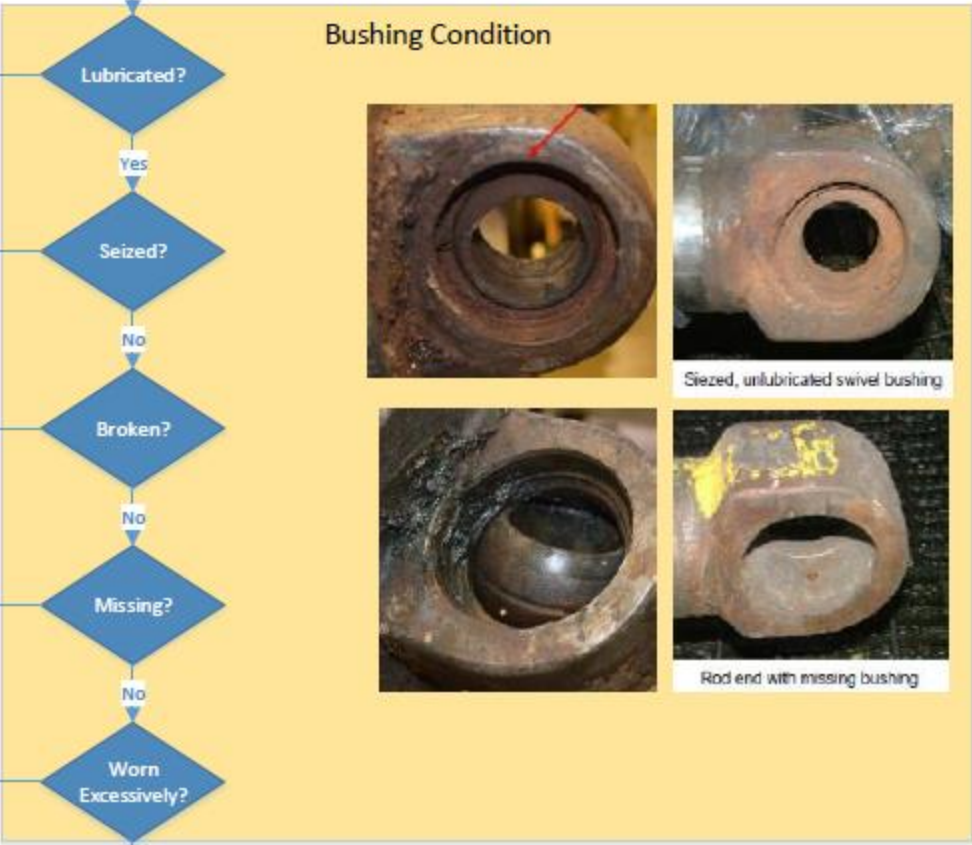


## CYLINDER RETURN DECISION TREE





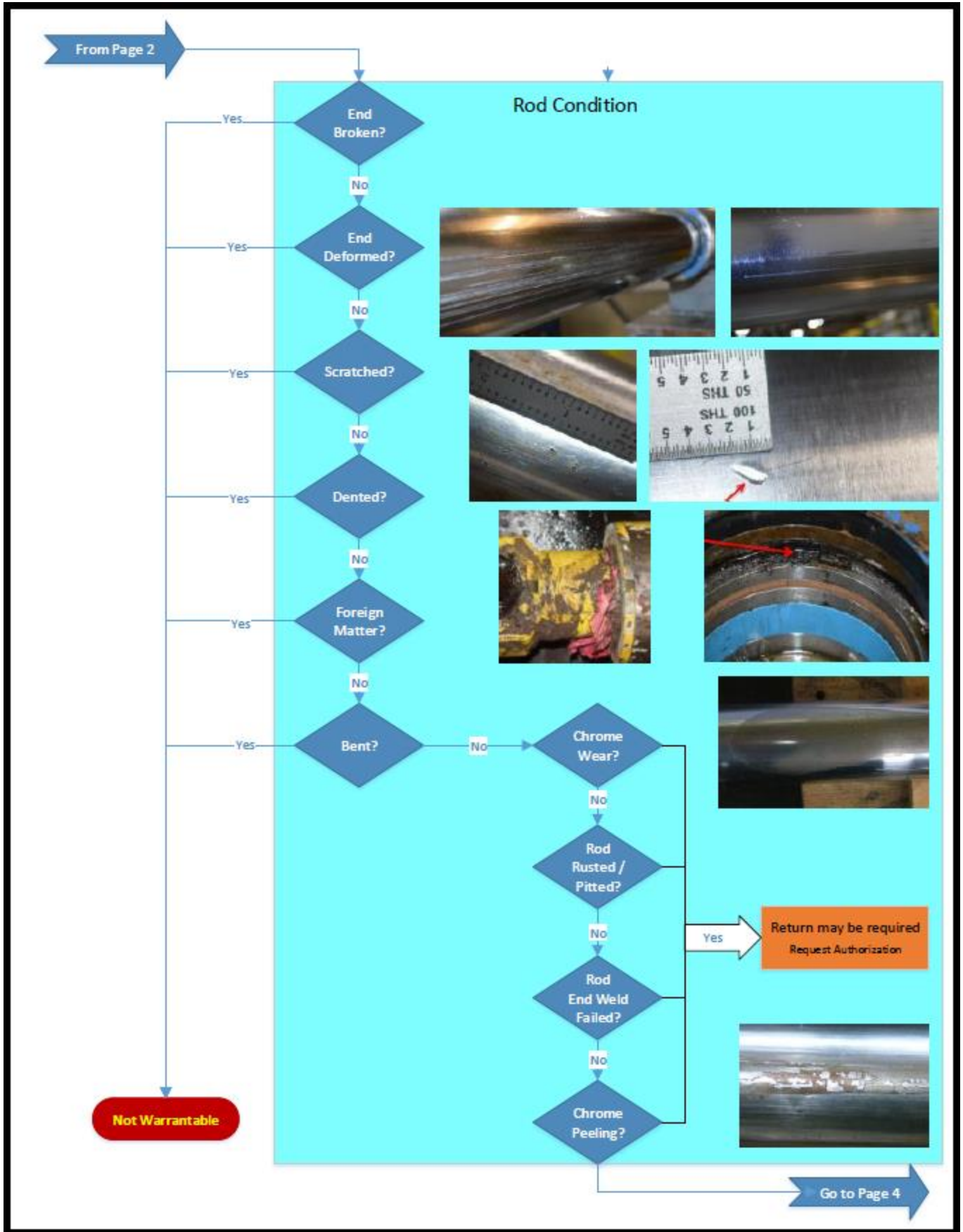
From Page 1



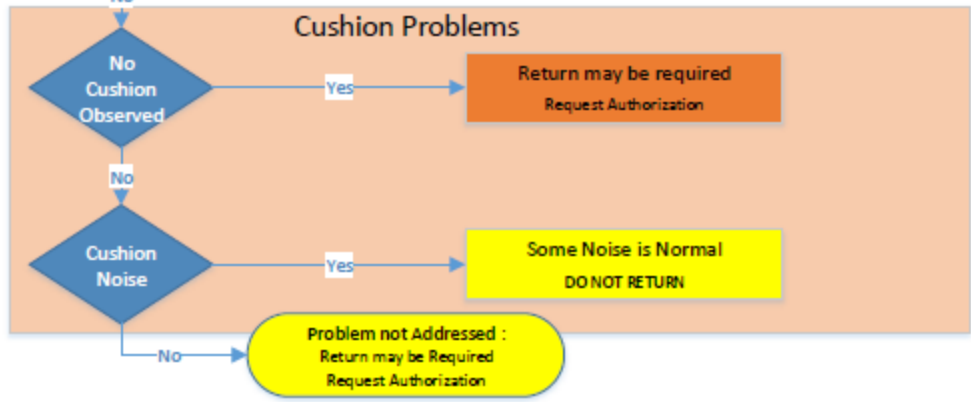
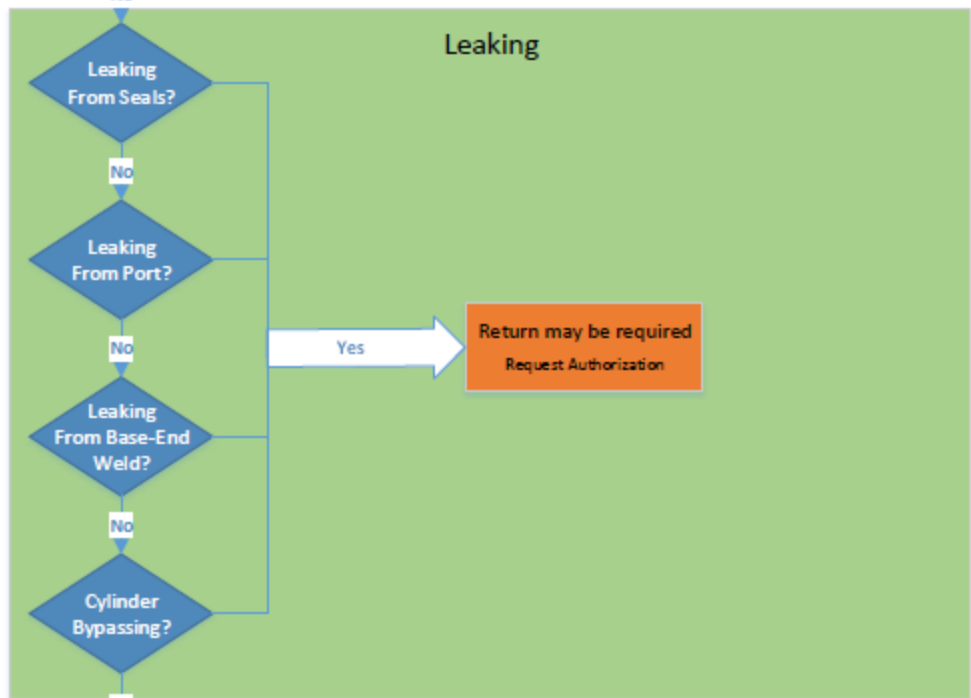
**Not Warrantable**

Return may be required  
Request Authorization

Go to Page 3



From Page 3



Not Warrantable



# HYDRAULIC CYLINDER WARRANTY CLAIMS

## - WARRANTY QUALIFICATION GUIDE -

To ensure the best possible performance and to meet the operator's high expectations:

- All hydraulic cylinders are designed and tested to meet or exceed the most rigorous industry performance standards.
- All hydraulic cylinders are 100% tested before shipment from the manufacturer.
- The complete system is tested and certified operational and within the cleanliness specifications before shipment.

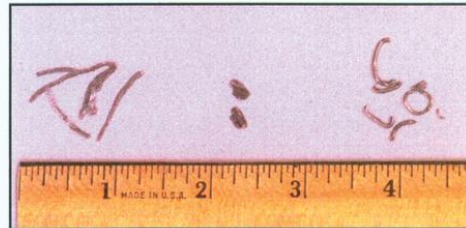
If a cylinder fails within the warranty period for a fault in materials or manufacturing, the defective cylinder will be replaced under the terms of the warranty. Failure Mode Analysis is used to evaluate cylinder failures, and wherever possible, to implement design and process changes to prevent similar future occurrences.

Correct evaluation of all failures is important in maintaining the highest performance standards expected of these products. The following examples are designed to show product failures that are not the result of design or manufacturing errors and will not be covered in the warranty program.

### CONTAMINATION



The contamination level of the oil in the hydraulic system must not exceed 18/15/13 in ISO code 4406.



Metallic and other debris not originating from the hydraulic system.

### IMPROPER MAINTENANCE OR OPERATION



BROKEN PIN BUSHINGS  
INADEQUATE LUBRICATION



SEIZED PIN BUSHINGS  
INADEQUATE LUBRICATION



ABNORMAL WEAR  
IMPROPER USE OF CYLINDER OR UNAUTHORIZED ATTACHMENTS

### MODIFICATION/EXTERNAL DAMAGE

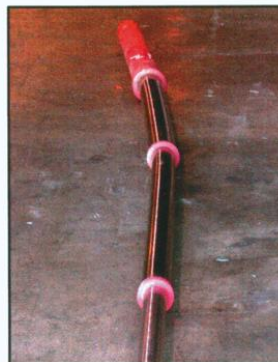
UNAUTHORIZED DESIGN CHANGES OR OPERATOR ERROR DAMAGE.



Seal damage due to paint or other unauthorized rod coating.



External welding on the cylinder customer modification.



BENT ROD  
Caused by exceeding design load capacity.



Impact damage to chromed rod surfaces.

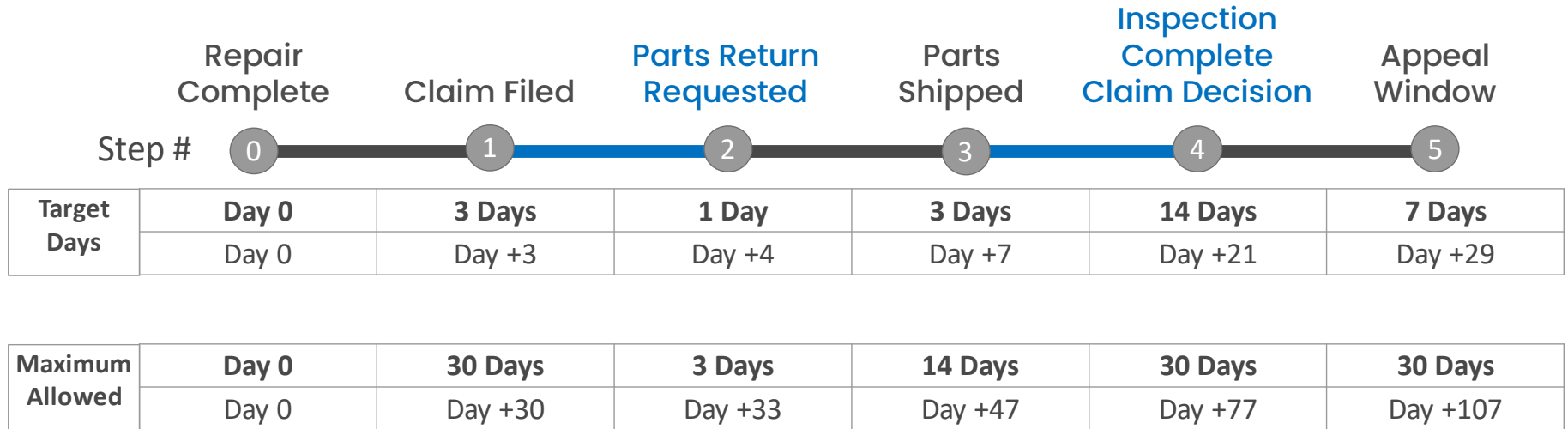


April 2004

# Appendix D – Warranty Parts Return Timeline

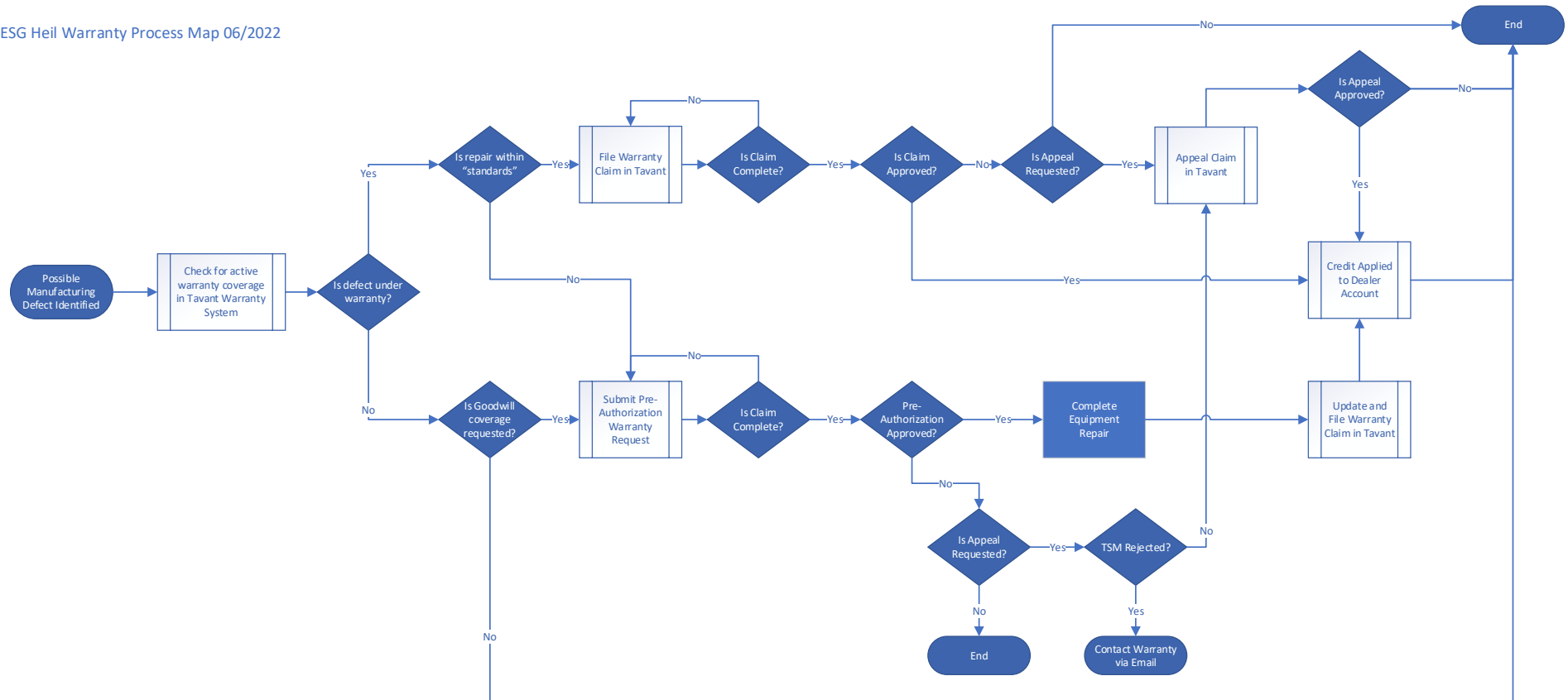


## Warranty Parts Return Timeline



# Appendix E – Warranty Claim Process Map

ESG Heil Warranty Process Map 06/2022



# Appendix F – Battery and Electrically Powered Refuse Collection Body Specifics

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The following exclusions and limitations apply to the battery system warranty. Heil has no responsibility for battery system defects caused by:

- inadequate or improper maintenance or storage
- failure to provide a suitable operating environment
- use of the battery system for purposes other than that for which it was designed
- failure to monitor or operate the battery system in accordance with applicable specifications and good industry practice
- unauthorized attachment, removal or alteration of any part of the battery system
- unusual mechanical, physical electrical stress, extreme environmental conditions or chemical exposure
- modifications or repairs done by other than Heil or Heil's authorized dealer
- any defects or performance failures resulting from product components from a third party that are integrated by user or a third party, including but not limited to battery cells
- the incompatibility, improper design, manufacture, installation, operation or maintenance of products, accessories, equipment or materials not supplied by Heil
- any other abuse, misuse, neglect, or accident (please see operation and service manual(s) for specifics); or
- Any other failure to follow the instructions and/or parameters as set forth in Heil's applicable operation and service manual(s), which may be updated from time to time.

Please note that electrified bodies that do not include an independent battery system rely on chassis battery system and, as such, are subject to the respective chassis maker's warranty and are outside the scope of any Heil warranty.