PE13-017

SUTPHEN

7-25-2013

ENCLOSURE

REQUEST 1

Enclosed is the information that was requested as part of Preliminary Evaluation PE13-017.

1. **State, by model and model year, the number of subject vehicles Sutphen has manufactured for sale or lease in the United States. Separately, for each subject vehicle manufactured to date by Sutphen, state the following:**
   a. Vehicle identification number (VIN);
   b. Make;
   c. Model;
   d. Model Year;
   e. Subject component part number and design version installed as original equipment;
   f. Date of manufacture;
   g. Date warranty coverage commenced; and
   h. The State in the United States where the vehicle was originally sold or leased (or delivered for sale or lease).

Sutphen Response:
For the 2009 model year, Sutphen Corporation (Dublin, OH) produced a total of 34 aerial platform apparatus. Sutphen Towers (Hilliard, OH) produced nine aerial platform vehicles, for a total of 43 trucks.

The breakdown of models produced is as follows:

Sutphen Corporation:
SP 100 – 1
SP 110 – 1
SPI 112 – 1
SP 95HR – 4
SPH 100 – 27 (This was the model of the subject vehicle in the VOQ.)

Sutphen Towers:
SP 70 - 9

Please see the enclosed information for more details. It includes VIN information and production/warranty dates for the 2009 model year vehicles. The date of manufacture is based on the production completion date of the truck. The date of warranty coverage is either the ship date or the date the truck was accepted by the customer. The data is included in paper form, as well as in the Microsoft Access database file "PRODUCTIONDATA.mdb" on the enclosed CD.

The ladder extend/retract systems are slightly different between the various models. All employ the same principles, but utilize different parts and mechanisms. Included on the CD is a file titled "PODUCTIONDATADETAILS.xlsx" which provides details on the part numbers and revision levels of the components used in the extend/retract systems for the subject vehicles. See the information in the response the Request No. 9 for more information on the different versions of these items.

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REQUEST 1

Request 1, 2009 Aerial Platform List

HS#	VIN	SHIP DATE	CUSTOMER	STATE	MODEL	PLANT
4293	1S9A3JLE79	Sep-10	[redacted]	PA	SP 95HR	DUBLIN
4423	1S9A3JLE39	Dec-08		CA	SPH 100	DUBLIN
4431	1S9A3JLE89	Oct-08		TN	SP 100	DUBLIN
4452	1S9A3JLE99	Nov-08		PA	SPH 100	DUBLIN
4454	1S9A3JLE69	Nov-08		TX	SP 95HR	DUBLIN
4457	1S9A3JLEX9	Nov-08		NY	SPH 100	DUBLIN
4464	1S9A3JLE99	Jan-09		MI	SPH 100	DUBLIN
4465	1S9A3KLE79	Jan-09		RI	SPH 100	DUBLIN
4485	1S9A3JLE09	Feb-09		TX	SPH 100	DUBLIN
4492	1S9A3JLE49	Mar-09		PA	SPH 100	DUBLIN
4495	1S9A3KLE29	Mar-09		NC	SPH 100	DUBLIN
4508	1S9A3JLE89	May-09		NC	SPH 100	DUBLIN
4509	1S9A3JLE69	Apr-09		OH	SPH 100	DUBLIN
4521	1S9A3JLE79	Sep-09		KY	SPI 112	DUBLIN
4526	1S9A3JLE59	Apr-09		OH	SPH 100	DUBLIN
4539	1S9A3JLE79	Apr-09		PA	SPH 100	DUBLIN
4541	1S9A3JLE99	May-09		OH	SPH 100	DUBLIN
4572	1S9A3JLE39	Jun-09		NY	SPH 100	DUBLIN
4578	1S9A3JLE39	Jul-09		NJ	SP 110	DUBLIN
4583	1S9A3JLE99	Jun-11		IN	SPH 100	DUBLIN
4584	1S9A3JLE79	Dec-09		CT	SPH 100	DUBLIN
4589	1S9A3JLE49	Jun-09		CT	SPH 100	DUBLIN
4596	1S9A3JLE89	Jul-09		AZ	SPH 100	DUBLIN
4611	1S9A3JLE39	May-09		NJ	SPH 100	DUBLIN
4622	1S9A3KLE79	Aug-09		NY	SP 95HR	DUBLIN
4633	1S9A3JLEX9	Aug-09		CT	SPH 100	DUBLIN
4641	1S9A3KME1	Sep-09		MO	SP 95HR	DUBLIN
4649	1S9A3JLE29	Dec-09		MO	SPH 100	DUBLIN
4650	1S9A3HLE59	Oct-09		NY	SPH 100	DUBLIN
4653	1S9A3JLEX9	Oct-09		NY	SPH 100	DUBLIN
4666	1S9A3JME4	Nov-09		OH	SPH 100	DUBLIN
4693	1S9A3JLE89	Dec-09		GA	SPH 100	DUBLIN
4694	1S9A3JLEX9	Dec-09		GA	SPH 100	DUBLIN
4724	1S9A3JLE49	Nov-09		OH	SPH 100	DUBLIN

HS#	VIN	SHIP DATE		STATE	MODEL	PLANT
4444	1S9A7LLEX9	Dec-08		GA	SP 70	HILLIARD
4491	1S9A7LLE19	Apr-09		OH	SP 70	HILLIARD
4494	1S9A7LLD29	Feb-09		NC	SP 70	HILLIARD
4510	1S9A7LLE39	May-09		WV	SP 70	HILLIARD
4548	1S9A7LLE49	Jun-09		FL	SP 70	HILLIARD
4552	1S9A7LLE39	Jun-09		FL	SP 70	HILLIARD
4560	1S9A3LLE19	Jul-09		NJ	SP 70	HILLIARD
4566	1S9A7LLE79	Aug-09		OK	SP 70	HILLIARD
4618	1S9A3LLE69	May-10		KS	SP 70	HILLIARD

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REQUEST 2

Enclosed is the information that was requested as part of Preliminary Evaluation PE13-017.

2. **State the number of each of the following, received by Sutphen, or of which Sutphen is otherwise aware, which relate to, or may relate to, the alleged defect in the subject vehicles:**
    a. Consumer complaints, including those from fleet operators;
    b. Field reports, including dealer field reports;
    c. Reports involving a crash, injury or fatality;
    d. Property damage claims; and
    e. Third-party arbitration proceedings where Sutphen is or was a party to the arbitration; and
    f. Lawsuits, both pending and closed, in which Sutphen is or was a defendant or codefendant.

Sutphen Response:
All available service records and communications for the subject vehicles have been reviewed. For this group of subject vehicles, there are only two instances that Sutphen is aware of that involve the failure of the ladder extend/retract system. The first involved the SPH 100 in Green Valley, AZ (VIN 1S9A3JLE8910[redacted]). The second was with an SPH 100 in Jackson Twp-Massillon, OH (VIN 1S9A3JME491[redacted]). On a third truck, Mishawaka, IN (VIN 1S9A3JLE991[redacted]), during the course of routine inspection, the sheaves and bearings were found to have some wear evident. These items were replaced, and the proper maintenance and inspection procedures were shown to the department.

a. Consumer complaints: One – [redacted]-Massillon, OH
b. Field Reports: Two – [redacted] IN and [redacted]-Massillon, OH
c. Reports of crash, injury: One – [redacted], AZ
d. Property Damage: One - [redacted], AZ
e. Arbitration: None
f. Lawsuits: None

The incident in [redacted], AZ that is mentioned here is the same issue that is referred to in the Vehicle Owner's Questionnaire. The investigation into this incident is still on-going. However, based on the information available at this time, improper maintenance and inspections seem to be the main contributing factors. The extend cables were overly tightened which overloaded the bearings. As the bearings began to seize, the cables were continued to be tightened which caused the sheave to rotate on the pivot pin. This metal on metal contact eventually caused the sheave to lock up and not rotate. As the cables slid over the stationary sheaves, they eventually wore down enough that they could no longer support the load of the platform. This assessment is based upon the inspections of the vehicle following the incident, as well as the maintenance and inspection documentation provided by the fire department.

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ENCLOSURE

REQUEST 3

Enclosed is the information that was requested as part of Preliminary Evaluation PE13-017.

3. **Separately, for each item (complaint, report, claim, notice, or matter) within the scope of your response to Request No. 2, state the following information:**
    a. Sutphen's file number or other identified used;
    b. The category of the item, as identified in Request No. 2 (i.e., consumer complaint, field report, etc.);
    c. Vehicle owner or fleet name (and fleet contact person), address, and telephone number;
    d. Vehicle's VIN;
    e. Vehicle's make, model and model year;
    f. Vehicle's mileage at the time of the incident;
    g. Incident date;
    h. Report or claim date;
    i. Whether vehicle was in response to an emergency;
    j. Whether property damage is alleged;
    k. Number of alleged injuries, if any; and
    l. Number of alleged fatalities, if any.

    Sutphen Response: The enclosed information contains all the information that is available in regards to the items listed in Request No 2.

    For this group of subject vehicles, there are only two instances that Sutphen is aware of that involve the failure of the ladder extend/retract system. The first involved the SPH 100 in [redacted], AZ (VIN 1S9A3JLE891[redacted]). The second was with an SPH 100 in Jackson Twp-[redacted], OH (VIN 1S9A3JME491[redacted]). In a third case, during a routine inspection a truck in [redacted], IN (VIN 1S9A3JLE991[redacted]) was found to have sheaves and bearings with visible wear evident. These items were replaced, and the proper maintenance and inspection procedures were shown to the department.

    The detailed information is included in a file "Claim Data".

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ENCLOSURE

REQUEST 3

CLAIM DATA

Sutphen File Number	Category	Vehicle Owner	VIN	Make/Model/Year	Mileage	Incident Date	Claim Date	In Emergency Response	Property Damage	Injuries	Fatalities
RS-7911	Property Damage	[redacted]	1S9A3JLE89[redacted]	2009 Sutphen SPH 100	9280	8/15/2012	8/15/2012	No	Truck components	4 Guests 1 Firefighter	None
RS-7815	Consumer Complaint	[redacted]	1S9A3JME49[redacted]	2009 Sutphen SPH 100	Unknown	11/14/2012	11/14/2012	No	No	None	None
RS-7886	Field Report	[redacted]	1S9A3JLE99[redacted]	2009 Sutphen SPH 100	Unknown	12/21/2012	12/21/2012	No	No	None	None
RS-8044	Field Report	[redacted]	1S9A3JME49[redacted]	2009 Sutphen SPH 100	Unknown	6/6/2013	6/6/2013	No	No	None	None

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ENCLOSURE

REQUEST 4

Enclosed is the information that was requested as part of Preliminary Evaluation PE13-017.

4. **Produce electronic copies of all documents related to each item within the scope of Request No. 2. Organize the documents separately by category (i.e., consumer complaints, field reports, etc.) and describe the method Sutphen used for organizing the documents.**

   Sutphen Response: Please see the enclosed information. Documents are arranged by the Sutphen repair document number and vehicle they refer to.

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SUTPHEN

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ENCLOSURE

REQUEST 4

RS7815 [redacted] 1 of 3

SUTPHEN®

FAMILY OWNED
SINCE 1890

Sutphen Corporation
Service Division
1653 West County Line Road
P.O. Box 1845
Springfield, OH 45501
Toll Free (866) 287-5549

No. 7815

[redacted]			DATE 11-1-11
ZIP	PHONE	H.S [redacted]	MILEAGE
MODEL	YEAR	CUSTOMER P.O.	
CU [redacted]	PUMP HOURS	WRITTEN BY 7182900	

DESCRIPTION OF WORK PERFORMED

I hereby authorize the above repair work to be done along with necessary materials. You and your employees may operate above vehicle for purpose of testing, inspection or delivery at my risk. An express mechanic's lien is acknowledged on above vehicle to secure the amount of repairs thereto. You will not be held responsible for loss or damage to vehicle, or articles left in the vehicle in case of fire, theft, accident or any other cause beyond your control.

AUTHORIZED SIGNATURE:

COST	QTY.	PART NUMBER AND DESCRIPTION	RETAIL	PRICE
		27 Express		
		B1 Service		
		0005 2553.58		

Sutphen Corporation has performed the above itemized work. Any liability or responsibility for work not so listed is specifically denied. Inspection of the apparatus for deficiencies or problems beyond the above listed items has not been performed. Thank you for choosing Sutphen Corporation for the maintenance of your vehicle.

TRAVEL HOURS			
LABOR HOURS			
FUEL			7642.55
	TOTAL		12614.39

Sutphen Corporation
Service Division
1653 West County Line Rd.
Springfield, Ohio 45501
Toll Free: (866) 287-5549

Name: [redacted] OH Date: 12-17-12
Address:
City: State: Zip:
Contact: Fax:
HS: 4666 Mileage: Model: Year: 6/06
Pump Hrs:
Cust. P.O.
Cust. Acct. No. Written By

DESCRIPTION OF WORK PERFORMED

RS7815

QTY	PART NUMBER AND DESCRIPTION	Parts	Labor	Extended Price
	Install Picture frame due to pulley wear		2,690.00	2,690.00
	AT-C-4823-C - Picture Frame	1831.73		1,831.73
	Replace ladder sheaves and pins		2,130.00	2,130.00
2	AT-C-2173-D - Sheave 7" diameter	113.30		226.60
2	AT-C-2251-E - Pin Sheave for 110'	32.42		64.84
	Replace ladder cables		2,020.00	2,020.00
1	AT-C-4823-C - Support Assy boom outer	1099.04		1,099.04
6	AT-C-5030 - Rod pin Rentrainer boom assy	11.98		71.88
2	AT-C-5968-C - Cable assy sect 1 to 3 lwr	393.00		786.00
2	AT-C-5969-C - Cable assy sect 1 to 3 oute	397.20		794.40
	3rd Party Test			1,000.00
	Shop Supplies			271.50
				12,985.99
	50% Discount			-6,493.44
				6,492.55
	Items Repaired per quote Dec. 3, 2012			
	Repaired leak at top officer's side discharge valve		200.00	200.00
	Recalibrated water tank level		200.00	200.00
	Tested and reset Platform breathing air too high		100.00	100.00
	Replace light on outrigger display		50.00	50.00
	Repaired platform leveling motor - not cycling		100.00	100.00
	Inspection from 3rd party List - Diagnostics to put together quote for repairs		500.00	500.00
				1,150.00
		TRAVEL HRS.		
		LABOR HRS.		
		TOTAL		7,642.55

Customer Service Report

Customer Name: [redacted] **Truck Model:** SPH100

Contact: _____ **HS#:** 4666

☐ Warranty **Repair Date:** 11/14/2012 **RS Ticket #:** 7815
☒ Billable

Date Repair Complete: 12/12/2012 **Technician:** Jason Shaw, Gene Salyers, Randy McClure, JR Garrison, Ken Searles and James Warman

Complaint:

Frayed cables

Cause:

Correction:

We inspected truck for further damage from frayed cables. From our inspection, we replaced ladder picture frame due to pulley wear, (4) ladder sheaves and pins, (4) ladder cables. The truck was 3rd party tested. Then we made the repairs that were identified from 3rd party test write up, these reports were quoted and approved.

Repair Validation Review:

Name: [redacted] 12-13-12

Summary of Repair with Customer:

Parts review with Customer:

Customer Comments:

Customer Signature: [redacted]

(Technician to attach this report with warranty request form)

[redacted] Massilon OH

Per [redacted] dealings on the repair to this truck, the events and dialog regarding activity and events are listed below.

- The customer's truck was delivered to Service for repair of broken cable. The Chief questioned the cause of failure. Jim advised that it appeared the cables were adjusted too tight, but would know more once sheaves and pins were analyzed.
- Ladder was extended as part of the analysis and the second cable broke. Once ladder was fully extended, the sheaves and pins were disassembled. The polygon bushings were virtually completely worn. Thus sheaves were cocked and rubbing grooves in the retaining brackets resulting in the picture frame requiring replacement. This analysis verified that the cables were adjusted too tight.
- During this period, Jim was keeping Chief [redacted] updated via telephone. Chief [redacted] was advised that a third party inspection was required after repairs were made to the sheaves and cables. Upon completion of the Third party test a quote was sent for initial repairs as-well-as items from Third party testing. Upon review of the quote, we were advised which repairs they wanted us to complete. The authorized repairs were completed per fire department authorization.
- On 12-13-12 Chief [redacted] and staff came to pick the truck up. Mike Ward took the customer through the repairs and corrections notating quotes and acknowledged approvals. Chief [redacted] signed off on the Customer Service Report (attached).
- Based on agreements made by [redacted], the initial billable repair was to be discounted by 50%. The repairs related to the Third party inspection were to be billed at face value. See breakdown below:

Total invoice amount-	$14,135.99 (see attached invoice)
Less Third Party amount-	$1150
Total for original repairs-	$12985.99
This amount @ 50%-	$6493.44
Customer invoice amount-	$7643.49

Sutphen Corporation
Service Division
1653 West County Line Rd.
Springfield, Ohio 45501
Toll Free: (866) 287-5549

Name: [redacted], OH Date: 12-17-12
Address:
City: State: Zip:
Contact: Fax:
HS: 4666 Mileage: Model: Year: 6/06
Pump Hrs:
Cust. P.O.
Cust. Acct. No. Written By

DESCRIPTION OF WORK PERFORMED

RS7815

QTY	PART NUMBER AND DESCRIPTION	Parts	Labor	Extended Price
	Install Picture frame due to pulley wear		2,690.00	2,690.00
	AT-C-4823-C - Picture Frame	1831.73		1,831.73
	Replace ladder sheaves and pins		2,130.00	2,130.00
2	AT-C-2173-D - Sheave 7" diameter	113.30		226.60
2	AT-C-2251-E - Pin Sheave for 110'	32.42		64.84
	Replace ladder cables		2,020.00	2,020.00
1	AT-C-4823-C - Support Assy boom outer	1099.04		1,099.04
6	AT-C-5030 - Rod pin Rentrainer boom assy	11.98		71.88
2	AT-C-5968-C - Cable assy sect 1 to 3 lwr	393.00		786.00
2	AT-C-5969-C - Cable assy sect 1 to 3 oute	397.20		794.40
	3rd Party Test			1,000.00
	Shop Supplies			271.50
	Items Repaired per quote Dec. 3, 2012			
	Repaired leak at top officer's side discharge valve		200.00	200.00
	Recalibrated water tank level		200.00	200.00
	Tested and reset Platform breathing air too high		100.00	100.00
	Replace light on outrigger display		50.00	50.00
	Repaired platform leveling motor - not cycling		100.00	100.00
	Inspection from 3rd party List - Diagnostics to put together quote for repairs		500.00	500.00
		TRAVEL HRS.		
		LABOR HRS.		
		TOTAL		14,135.99

[redacted]

From: [redacted]
Sent: Thursday, December 06, 2012 4:13 PM
To: [redacted]
Subject: RE: [redacted] OH Estimate

Thanks Jim

From: John Taylor
Sent: Thursday, December 06, 2012 3:55 PM
To: thogue@jacksontwp.com
Cc: James Parrott Sr.; Dareth Fowler; Sara Beckett; Michael Sturgill; Bob Meyer; Tom Stites
Subject: [redacted] OH Estimate

Chief,

Jim relayed direction for me to make changes of some items & repairs not wanted.

Attached is the updated extra items estimate.

Thank you,

John Taylor
Sutphen Corporation Service & Parts Dept.
1653 W. County Line Rd.
Springfield, OH 45503
(866) 287-5549
Fax: (937) 969-8869
www.sutphen.com
http://www.facebook.com/sutphencorporation

SUTPHEN

James Parrott Sr.

From: James Parrott Sr.
Sent: Wednesday, December 05, 2012 2:51 PM
To: [redacted]
Cc: [redacted]
Subject: RE: Repairs
Attachments: [redacted]OH 11-27-12.pdf

Sorry , I missed that one. We had to do a third party test because we replaced the cables and inspected the sheaves. The test is $1200.00 and I am resending the quote for repairs. Any questions please contact me. Thanks

From: [redacted]
Sent: Tuesday, December 04, 2012 3:51 PM
To: James Parrott Sr.
Subject: RE: Repairs

Hi Jim,

I am confused as I see the repair list but do not see a quote for a 3rd party test.

Also your e-mail to [redacted], he is the Fire Chief in [redacted] Grove City. We are the [redacted] near Canton, Ohio-Stark County.

[redacted]

From: James Parrott Sr. [mailto:James.Parrott@sutphencorp.com]
Sent: Tuesday, December 04, 2012 3:39 PM
To: [redacted]
Subject: Repairs

SORRY ABOUT THAT.

James Parrott Sr.

Floor Supervisor
Sutphen Corporation Service & Parts Dept.
1653 W. County Line Rd.
Springfield, OH 45503
(866) 287-5549
Fax: (937) 969-8869
www.sutphen.com
http://www.facebook.com/sutphencorporation

Sutphen Corporation
Service Division
1653 West County Line Rd.
Springfield, Ohio 45501
Toll Free: (866) 287-5549

Name: [redacted] OH Date: 6 Dec 2012
Address:
City: State: Zip:
Contact: Fax:
HS 4666 Mileage: Model SPH 100
Year: 2009 Pump Hrs:
Cust. P.O.
Cust. Acct. No. Written By: J Taylor

DESCRIPTION OF WORK PERFORMED

Estimate from 3rd Party Certification test

Note:Items listed in Blue below has been repiared

6 Dec 2012 Update: removed items/repairs not wanted

Contact:Chief Morton 330-834-3953 X 3
thogue@jacksontwp.com

I hereby authorize the above repair work to be done along with necessary materials. You and your employees may operate above vehicle for purposes of testing, inspection or delivery at my risk. An express mechanic's lien is acknowledged on above to secure the amount of repairs thereto. You will not be held responsible for losses or damage to vehicle or articles left in the vehicle in case of fire, theft, accident or any other cause beyond your control.

Authorized Signature:

QTY	PART NUMBER AND DESCRIPTION	Parts	Labor	Extended Price
1	Repaired leak at top officers side discharge valve			
	Repair complete		$200.00	$200.00
1	Waterway relief valve leaks (not rebuildable) & test			
	107819	$409.46	$300.00	$709.46
~~1~~	~~Replace Platform Gatevalve leaks & test (purflex)~~	~~$750.00~~	~~$300.00~~	~~$1,050.00~~
1	Recalibrated water tank level inaccurate.			
	Repair complete		$200.00	$200.00
1	Tested and reset Platform breathing air too high			
	Repair complete		$100.00	$100.00
1	Repaired light out on outrigger display			
	Repair complete		$50.00	$50.00
1	Repaired platform leveling motor not cycling			
	Repair complete		$100.00	$100.00

Sutphen Corporation has performed the above itemized work. Any liability or responsibility for work not listed is specifically denied. Inspection of the apparatus for deficiencies or problems beyond the above listed items has not been performed. Thank you for choosing Sutphen Corporation for the maintenance of your vehicle.

TRAVEL HRS.		
LABOR HRS.		
TOTAL		$2,409.46

PE13-017

SUTPHEN

7-25-2013

ENCLOSURE

REQUEST 4

RS7815 [redacted] 2 of 3

[redacted] OH

Per J Parrott's dealings on the repair to this truck, the events and dialog regarding activity and events are listed below.

- The customer's truck was delivered to Service for repair of broken cables. The Chief questioned the cause of failure. Jim advised that it appeared the cables were adjusted too tight, but would know more once sheaves and pins were analyzed.
- Ladder was extended as part of the analysis and the second cable broke. Once ladder was fully extended, the sheaves and pins were disassembled. The polygon bushings were virtually completely worn. Thus sheaves were cocked and rubbing grooves in the retaining brackets resulting in the picture frame requiring replacement. This analysis verified that the cables were adjusted too tight.
- During this period, Jim was keeping Chief [redacted] updated via telephone ~~which formulated into written quote format. The initial quote did not include Third Party testing. A s[redacted] quote was sent including Third party items to determine which items they wanted us to repair.~~ The authorized repairs were completed per fire department authorization.
- On 12-13-12 Chief [redacted] and staff came to pick the truck up. Mike Ward took the customer through the repairs and corrections notating quotes and acknowledged approvals. Chief [redacted] signed off on the Customer Service Report (attached).

Relief Valve + Labor - Free

464
300
764 → Free

6492.00
6493.44
7643.49

Bob Meyer

To: Drew Sutphen; Dan Herb
Cc: Paul Miller; James Parrott Sr.; Mike Ward
Attachments: 3066_001.pdf

Attached is the bullet point version of Jim Parrott's write up on this project as best I can delineate. Please note the fact that Jim and the customer were in contact over the telephone during the events and final acceptance was notated on the Customer Service Report highlighted in yellow. My understanding is we will discount the original invoice 30% of $15215, which is $4565 bringing the total to $10,650. Is that the discount we want to offer? Thanks.....Bob

[redacted] OH

Per J Parrott's dealings on the repair to this truck, the events and dialog regarding activity and events are listed below.

- The customer's truck was delivered to Service for repair of broken cable. The Chief questioned the cause of failure. Jim advised that it appeared the cables were adjusted too tight, but would know more once sheaves and pins were analyzed.
- Ladder was extended as part of the analysis and the second cable broke. Once ladder was fully extended, the sheaves and pins were disassembled. The polygon bushings were virtually completely worn. Thus sheaves were cocked and rubbing grooves in the retaining brackets resulting in the picture frame requiring replacement. This analysis verified that the cables were adjusted too tight.
- During this period, Jim was keeping Chief [redacted] updated via telephone which formulated into written quote format. The initial quote did not include Third Party testing. A second quote was sent including Third party items to determine which items they wanted us to repair. The authorized repairs were completed per fire department authorization.
- On 12-13-12 Chief [redacted] and staff came to pick the truck up. Mike Ward took the customer through the repairs and corrections notating quotes and acknowledged approvals. Chief [redacted] signed off on the Customer Service Report (attached).

Jim and Mike

Please look this over before I let send

Thanks Bob

May Want to Check with Drew on the Price, Rings a bell it was around 9K Even though it was approved by the Chief Dan will get involved.

[redacted] [redacted] Ohio

This unit was brought to our shop with broken and frayed cable's. The Chief gave me the broken cable from the back of his car. He asked me what would have caused this problem. I told him it looked like the cable's were adjusted to tight, but when we pull the sheave's and pins, we would know more.

Once we started to extend the ladder, the other exteno cable broke. Once we had the ladder extended, we pulled the sheave's and pins. We inspected them and found the poly gon bushing's were wore out. We also found the sheave's had been rubbing the bracket's they mount in. We had to replace the picture frame (which has the sheave mounting bracket's on it).

I was keeping in contact with Chief [redacted] about the replacement of these parts. At this time he wanted an estimate on what the repair's were going to cost them. The first estimate I sent, I forgot to add the third party testing, (which had to be re-certified when the structural part of the ladder has been dis-assembled). I re-sent the quote with the list from the third party testing to see if they wanted us to do any of the addissional repairs.

WE MADE THE REPAIR'S PER THE QUOTE ON 12-6-12. AFTER THE QUOTED REPAIR'S WERE MADE AND COMPLETED, WE CALLED THE CUSTOMER TO COME AND PICK UP THEIR UNIT.

THEY CAME TO PICK UP THEIR UNIT ON 12-13-12. MIKE WARD WENT OVER THE LIST OF REPAIRS WITH CHIEF MORTON. THEN MIKE AND THE CHIEF SIGNED OFF ON THE CUSTOMER SERVICE REPORT.

10.7 hrs.

✓ = original Quote
X = 3rd Part Quote

Hours	RS7815	Date	Tech	Comments	
0.5		11/14/2012	Shaw	Set truck up and run for Jim	✓ light on outrigger display
4.2		11/16/2012	Salyers	Work on ladder	✓
5.0		11/16/2012		Cable removal, bucket removal	✓
9.4		11/19/2012	McClure	Ladder picture frame	✓ pic frame
8.2		11/19/2012	Garrison	R/R bucket/picture frame	✓
8.5		11/20/2012	McClure	Ladder & Cables	✓
8.3		11/20/2012	Garrison	Install pic frame	✓
6.8		11/21/2012	McClure	Ladder	✓
8		11/21/2012	Garrison	Install yoke plates and run ladder	✓
2.4		11/26/2012	Garrison	Install lower bucket skin - test functions	✓
2.1		11/26/2012	McClure	Ladder	✓
6.5		11/28/2012	Shaw	Electrical leveling motor	✓
6.2		11/28/2012	McClure	List	X
6		12/7/2012	Searles	Water and foam	X
3.1		12/11/2012	Shaw	Waterway valve replace. Adjust rear sensor	X
3.1		12/12/2012	Warman	Reroute lines so gauges drain, check cable adjustment	✓
1.8		12/12/2012	Hardwick	Check cable adjustment	✓
0.6		12/13/2012	Warman	Ladder adjust	✓

90.7

?

A1-4823

Sara Beckett

From: AD Report Generator <nobody@sutdb.sutphencorp.com>
Sent: Monday, December 17, 2012 11:26 AM
To: Sara Beckett
Subject: Report report-2012-12-17.11-25-52.16408.txt

Company: sut — Warehouse Item Listing — Page: 1
Printed by: sbeckett — Warehouse: [redacted] CANTON, OH HS4666 — Printed on: 12/17/12
All Items.

Item Number	Item Name (Truncated)	Vendor	Primary UOM	Std Quantity On Hand	Quantity Committed	Quantity On Order	Earliest Receipt	Quantity Expected	UOM	Total Cost	COST	LIST
107819	RELIEF valve 115 flange 2.5 CLAS	00	EA	1.00	0.00	0.00					232.20	464.4
AT-C-2173-d	SHEAVE 7" diameter	UNION	0 EA	2.00	0.00	0.00					113.30	339.9
at-c-2251-e	PIN, SHEAVE FOR 110'	UNION	0 EA	2.00	0.00	0.00					32.42	97.26
at-c-4823-c	SUPPORT assy boom outer	LASE	00 EA	1.00	0.00	0.00					549.52	1831.73
at-c-5030	ROD PIN RETAINER BOOM ASSY	UNION	0 EA	6.00	0.00	0.00					35.94	72
at-c-5968-c	CABLE assy sect 1 to 3 lwr	BLACC	O EA	2.00	0.00	0.00					393.00	1179
at-c-5969-c	CABLE assy sect 1 to 3 oute	BLACC	O EA	2.00	0.00	0.00					397.20	1191.60
AT/TEST/S	AERIAL LADDER INSPECTION	NATTE	S EA	1.00	0.00	0.00						
# 10064798 3rd party										800.00		1200
Truck: RS7815												

Total Inventory Value: 2,553.58

$6375.89 LIST

* Indicates Cost Layer Quantities Do Not Match Balance Quantities

7622.10
371.90
2553.58

Sutphen Corporation
Service Division
1653 West County Line Rd.
Springfield, Ohio 45501
Toll Free: (866) 287-5549

Name [redacted] OH Date: 6 Dec 2012
Address:
City: State: Zip:
Contact: Fax:
HS 4666 Mileage: Model SPH 100
Year: 2009 Pump Hrs:
Cust. P.O.
Cust. Acct. No. Written By: J Taylor

DESCRIPTION OF WORK PERFORMED

Estimate from 3rd Party Certification test

Note:Items listed in Blue below has been repiared

6 Dec 2012 Update: removed items/repairs not wanted

Contact:Chief [redacted]

I hereby authorize the above repair work to be done along with necessary materials. You and your employees may operate above vehicle for purposes of testing, inspection or delivery at my risk. An express mechanic's lien is acknowledged on above to secure the amount of repairs thereto. You will not be held responsible for losses or damage to vehicle or articles left in the vehicle in case of fire, theft, accident or any other cause beyond your control.

Authorized Signature:

QTY	PART NUMBER AND DESCRIPTION	Parts	Labor	Extended Price
1	Repaired leak at top officers side discharge valve			
	Repair complete		$200.00	$200.00
1	Waterway relief valve leaks (not rebuildable) & test			
	107819	$409.46	$300.00	$709.46
1	Replace Platform Gatevalve leaks & test (purflex)	$750.00	$300.00	$1,050.00
1	Recalibrated water tank level inaccurate.			
	Repair complete		$200.00	$200.00
1	Tested and reset Platform breathing air too high			
	Repair complete		$100.00	$100.00
1	Repaired light out on outrigger display			
	Repair complete		$50.00	$50.00
1	Repaired platform leveling motor not cycling			
	Repair complete		$100.00	$100.00

Sutphen Corporation has performed the above itemized work. Any liability or responsibility for work not listed is specifically denied. Inspection of the apparatus for deficiencies or problems beyond the above listed items has not been performed. Thank you for choosing Sutphen Corporation for the maintenance of your vehicle.

TRAVEL HRS.		
LABOR HRS.		
TOTAL		$2,409.46

PE13-017

SUTPHEN

7-25-2013

ENCLOSURE

REQUEST 4

RS7815 [redacted] 3 of 3

Sutphen Corporation
Service Division
1653 West County Line Rd.
Springfield, Ohio 45501
Toll Free: (866) 287-5549

Name [redacted] OH		Date: 3 Dec 2012
Address:		
City:	State:	Zip:
Contact:	Fax:	
HS 4666	Mileage:	Model SPH 100
Year: 2009	Pump Hrs:	
Cust. P.O.		
Cust. Acct. No.		Written By: J Taylor

DESCRIPTION OF WORK PERFORMED

Estimate from 3rd Party Certification test

Note:Items listed in Blue below has been repiared

Contact:

I hereby authorize the above repair work to be done along with necessary materials. You and your employees may operate above vehicle for purposes of testing, inspection or delivery at my risk. An express mechanic's lien is acknowledged on above to secure the amount of repairs thereto. You will not be held responsible for losses or damage to vehicle or articles left in the vehicle in case of fire, theft, accident or any other cause beyond your control.

Authorized Signature:

QTY	PART NUMBER AND DESCRIPTION	Parts	Labor	Extended Price
1	Replace pump panel TPG head & test (portion will not			
	Illuminate) 117155	$1,126.00	$300.00	$1,426.00
1	Outrigger display circuit board partial failure			
	AT-C-5674 (Color may not match previous panel)	$843.34	$400.00	$1,243.34
1	Repaired leak at top officers side discharge valve			
	Repair complete		$200.00	$200.00
1	Waterway relief valve leaks (not rebuildable) & test			
	107819	$409.46	$300.00	$709.46
1	Replace Platform Gatevalve leaks & test (purflex)	$750.00	$300.00	$1,050.00
1	Recalibrated water tank level inaccurate.			
	Repair complete		$200.00	$200.00
1	Tested and reset Platform breathing air too high			
	Repair complete		$100.00	$100.00
1	Repaired light out on outrigger display			
	Repair complete		$50.00	$50.00
1	Repaired platform leveling motor not cycling			
	Repair complete		$100.00	$100.00
1	Replace Akron valve display blinks			
	7 day order time 93030004 Akron Brass	$763.00	$200.00	$963.00

Sutphen Corporation has performed the above itemized work. Any liability or responsibility for work not listed is specifically denied. Inspection of the apparatus for deficiencies or problems beyond the above listed items has not been performed. Thank you for choosing Sutphen Corporation for the maintenance of your vehicle.	TRAVEL HRS.		
	LABOR HRS.		
	TOTAL		$6,041.80

Sutphen Corporation
Service Division
1653 West County Line Rd.
Springfield, Ohio 45501
Toll Free: (866) 287-5549

Name: [redacted] OH Date: 12-17-12
Address:
City: State: Zip:
Contact: Fax:
HS: 4666 Mileage: Model: Year: 6/06
Pump Hrs:
Cust. P.O.
Cust. Acct. No. Written By

DESCRIPTION OF WORK PERFORMED

RS7815

QTY	PART NUMBER AND DESCRIPTION	Parts	Labor	Extended Price
	Install Picture frame due to pulley wear		2,690.00	2,690.00
	AT-C-4823-C - Picture Frame	1831.73		1,831.73
	Replace ladder sheaves and pins		2,130.00	2,130.00
2	AT-C-2173-D - Sheave 7" diameter	113.30		226.60
2	AT-C-2251-E - Pin Sheave for 110'	32.42		64.84
	Replace ladder cables		2,020.00	2,020.00
1	AT-C-4823-C - Support Assy boom outer	1099.04		1,099.04
6	AT-C-5030 - Rod pin Rentrainer boom assy	11.98		71.88
2	AT-C-5968-C - Cable assy sect 1 to 3 lwr	393.00		786.00
2	AT-C-5969-C - Cable assy sect 1 to 3 oute	397.20		794.40
	3rd Party Test			1,000.00
	Shop Supplies			271.50
	Items Repaired per quote Dec. 3, 2012			
	Repaired leak at top officer's side discharge valve		310.00	310.00
	Recalibrated water tank level		600.00	600.00
	Tested and reset Platform breathing air too high		100.00	100.00
	Replace light on outrigger display		50.00	50.00
	Light on outrigger display	20.00		20.00
	Repaired platform leveling motor - not cycling		650.00	650.00
	Inspection from 3rd party List - Diagnostics to put together quote for repairs		500.00	500.00
		TRAVEL HRS.		
		LABOR HRS.		
		TOTAL		15,215.99

I TOLD CHIEF [redacted] THAT WE HAD TO DO A THIRD PARTY TEST BECAUSE THE CABLE'S AND SHEAVE'S WERE CONSIDERED PART OF THE STRUCTURE. AFTER THE THIRD PARTY TEST WE HAD A LIST OF REQUIRED REPAIR'S AND SHOULD BE DONE REPAIR'S. CHIEF [redacted] ASKED ME TO SEND HIM A TOTAL OF THE REPAIRS ALREADY COMPLETED, AND A QUOTE FOR REPAIR'S NEEDED FROM THIRD PARTY TESTING.

I TOLD HIM TO LET US KNOW WHAT REPAIR'S HE WANTED US TO MAKE. WE THEN WENT OVER THE LIST AND HE DELETED A FEW ITEMS AND TOLD ME TO REPAIR THE REST.

PE13-017

SUTPHEN

7-25-2013

ENCLOSURE

REQUEST 4

RS7886 [redacted]

SUTPHEN®

FAMILY OWNED
SINCE 1890

Sutphen Corporation
Service Division
1653 West County Line Road
P.O. Box 1845
Springfield, OH 45501
Toll Free (866) 287-5549

No. 7886

NAME [redacted]			DATE 12-21-12
ADDRESS [redacted]			
ZIP	PHONE [redacted]	H.S. NO. 9583	MILEAGE
MAKE Aerial	YEAR 2007	CUSTOMER P.O. 1711 82470	
CUSTOMER ACCT. NO. [redacted]	PUMP HOURS	WRITTEN BY Allen Hardwick / Ken Seaves	

DESCRIPTION OF WORK PERFORMED

inspect cables and pulleys - replace two main pulley (sheaves) - adj cables slow maintenance tech how to adjust cables

AWAR/Engineering fault

I hereby authorize the above repair work to be done along with necessary materials. You and your employees may operate above vehicle for purpose of testing, inspection or delivery at my risk. An express mechanic's lien is acknowledged on above vehicle to secure the amount of repairs thereto. You will not be held responsible for loss or damage to vehicle, or articles left in the vehicle in case of fire, theft, accident or any other cause beyond your control.

AUTHORIZED SIGNATURE:

COST	QTY.	PART NUMBER AND DESCRIPTION	RETAIL	PRICE
	2	sheave AT-C-2173-D		
	2	pin AT-C-2251-E		
		AWAR MSE 5141 80 hrs.		
		Seaves, Ken 4.7 hrs.		
		Hardwick, Allen 16.2 hrs.		
		Travel Expenses 28709		

Sutphen Corporation has performed the above itemized work. Any liability or responsibility for work not so listed is specifically denied. Inspection of the apparatus for deficiencies or problems beyond the above listed items has not been performed. Thank you for choosing Sutphen Corporation for the maintenance of your vehicle.

TRAVEL HOURS	12.9		
LABOR HOURS	8		
FUEL			
TOTAL			

PE13-017

SUTPHEN

7-25-2013

ENCLOSURE

REQUEST 4

RS7911 [redacted]

SUTPHEN®

FAMILY OWNED
SINCE 1890

Sutphen Corporation
Service Division
1653 West County Line Road
P.O. Box 1845
Springfield, OH 45501
Toll Free (866) 287-5549

No. 7911

NAME [redacted]			DATE 1-21-13
ADDR			
ZIP	PHONE	H.S. NO. 4596	MILEAGE
MODEL	YEAR	CUSTOMER P.O.	
[redacted]P HOURS		WRITTEN BY [illegible]	

DESCRIPTION OF WORK PERFORMED

Disassemble ladder

I hereby authorize the above repair work to be done along with necessary materials. You and your employees may operate above vehicle for purpose of testing, inspection or delivery at my risk. An express mechanic's lien is acknowledged on above vehicle to secure the amount of repairs thereto. You will not be held responsible for loss or damage to vehicle, or articles left in the vehicle in case of fire, theft, accident or any other cause beyond your control.

AUTHORIZED SIGNATURE:

COST	QTY.	PART NUMBER AND DESCRIPTION	RETAIL	PRICE

Sutphen Corporation has performed the above itemized work. Any liability or responsibility for work not so listed is specifically denied. Inspection of the apparatus for deficiencies or problems beyond the above listed items has not been performed. Thank you for choosing Sutphen Corporation for the maintenance of your vehicle.

TRAVEL HOURS			
LABOR HOURS	[illegible]		
FUEL			
	TOTAL		[illegible]

02/28/2013 at 08:36 AM File ID: 2410
30686

AUTOMOTIVE & EQUIPMENT APPRAISAL
Dayton
AUTOMOTIVE & EQUIPMENT APPRAISAL
63-A North Dixie Drive
Vandalia, OH 45377
(937)264-0600 Fax: (937)264-0224
Written By: WILLIAM BICKLEY 02/28/2013 08:36 AM

For: [redacted] **Claims mgt -**
Adjuster: Diane Barth

ESTIMATE OF RECORD

Insured: [redacted]
Owner: [redacted]
Address: [redacted] AZ [redacted]
Business: [redacted]
Cellular: [redacted]

Claim # [redacted]
Policy # [redacted]
Date of Loss: 08/15/2012
Type of Loss: Collision
Point of Impact: 16. Non-Collision

Inspect Location: Sutphen Warehouse OTHER

Repair Facility: SUTPHEN CORP Columbus, OH
Business: (866)287-5549
Days to Repair
License #

2009 OTHE Sutphen 100' areial HS4596 DIESEL red Int:
VIN: 1S9A3JLE891[redacted] **Lic:** [redacted] AZ **Prod Date:** **Odometer:** UNK

NO.	OP.	DESCRIPTION	QTY	EXT. PRICE	LABOR	PAINT
1#	Rpr	remove ladder assy from truck			28.0	
2#		unhook electrical & Hyd	1			
3#	Rpr	remove Bucket from yolk			5.0	
4#	Rpr	Remove yolk assembly			6.0	
5#	Rpr	Remove flex hoses			2.0	
6#	Rpr	Pull all sections apart on floor (5 sections)			28.0	
7#	Rpr	Inspect Rotec Bearing			4.0	
8#	Rpr	Inspect outriggers 4 each			4.0	
9#						
10#	Rpr	Remove waterway so it can be resealed			6.0	
11#	Rpr	Transport waterway to Spfld shop for reseal			3.0	
12#	Repl	reseal water way and test	1	300.00	18.0	
13#	Subl	Pressure wash and clean sections 12.0 hrs	1	1200.00 X		
14#	Rpr	Transport Water way back to Corp			3.0	
15#						

ESTIMATE OF RECORD

2009 OTHE Sutphen 100' areial HS4596 DIESEL red Int:

NO.	OP.	DESCRIPTION	QTY	EXT. PRICE	LABOR	PAINT
16#	Repl	Remove climbing ladder ends left & Right	2	350.00	3.0	
17#		inspect ladder rungs	1			
18#						
19#						
20#	Repl	Bucket Structure & Transfer all parts	1	25988.13	90.0	
21#	Rpr	Reuse Bucket leveling system & Inspect cylinders			2.0	
22#	Rpr	reuse Bucket control Box Assembly			Incl.	
23#	Repl	Parapet Ladder	1	1050.00	Incl.	
24#	Repl	Yolk cover Treadplate	1	90.00		
25#	Rpr	Cut old Bucket apart and supply photos of scrap			2.0	
26#	Repl	Tele light handle at Bucket door (Grab Handle)	1	165.00	1.5	
27#						
28#	Repl	Large Flex hoses (blown out)	2	300.00	2.0	
29#						
30#	Repl	Cable track assy (Cat Track)	1	30000.00	24.0	
31#	Repl	Cable package assembly	1	13459.20	12.0	
32#	Repl	All ladder sheaves	1	20022.00	24.0	
33#	Repl	Sheave pins and caps	1	583.56	Incl.	
34#						
35#	Repl	Yolk assy	1	3951.00	4.0	
36#	Rpr	Cut Yolk apart and provide photos for scrap			2.0	
37#						
38#	Rpr	Visual and operational check lift cylinders			2.0	
39#	Rpr	Reuse Stokes Arms & inspect			2.0	
40#						
41#	Repl	all ladder bolts and nuts packages	1	1400.00		
42#	Repl	Ladder section Hucks as nec	1	1000.00		
43#	Repl	ladder slide Blocks complete set	1	4669.41		
44#	Repl	Ladder lacings as nec on sections repaired	1	203.67		
45#						
46#		BASE Section #5	1			
47#	Rpr	Measure and inspect Base so it can be reused			4.0	
48#	Repl	Slide Blocks on Base	1	Incl.		
49#	Rpr	labor base section			10.0	
50#						
51#		TPI Section	1			

ESTIMATE OF RECORD

2009 OTHE Sutphen 100' areial HS4596 DIESEL red Int:

NO.	OP.	DESCRIPTION	QTY	EXT. PRICE	LABOR	PAINT
52#	Rpr	Measure and check Tip			4.0	
53#	Repl	Tip slide blocks	1	Incl.		
54#	Repl	End Plates Lt & Rt	2	650.00		
55#	Rpr	Hyd cyl box			2.0	
56#	Repl	Lacings as nec	2	Incl.		
57#	Rpr	Labor Tip section			24.0	
58#						
59#		SECTION #2	1			
60#	Rpr	Measure and check structure of this section			4.0	
61#	Repl	Misc lacings	1	Incl.		
62#	Rpr	Track brackets			1.0	
63#	Repl	Steel structure	1	2200.00		
64#	Rpr	labor Section #2			24.0	
65#						
66#		SECTION #3	1			
67#	Rpr	Measure and check section			4.0	
68#	Repl	Steel structure	1	800.00		
69#	Repl	Slide Blocks	1	Incl.		
70#	Rpr	Labor section number 3			16.0	
71#						
72#		SECTION 4	1			
73#	Rpr	Measure and check section			4.0	
74#	Repl	Slider blocks	1	Incl.		
75#	Rpr	Labor section number 4			16.0	
76#						
77#	Repl	Picture Frame Section Steel	1	2650.00		
78#	Repl	Cable bracket	8	199.84		
79#	Repl	Rubber Grommet	16	12.96		
80#	Repl	Cylinder attach bracket	4	191.32		
81#	Repl	Bearings	4	44.00		
82#	Repl	End rail support plate	2	22.00		
83#	Repl	Climbing ladder support Blocks	2	59.20		
84#	Repl	Pin, cable end Boom	8	96.00		
85#	Repl	Bucket leveling harness	1	78.22		
86#						
87#	Rpr	Assemble repaired ladder sections (put together)			40.0	
88#	Rpr	Install ladder back on truck			30.0	
89#	Rpr	FactoryOperational test after assembly			8.0	
90#						
91#	Rpr	Final finish			99.0	
92#	Rpr	Final Finish & Fit			87.0	
93#		Part Freight and pick up	1			
94#						
95#	Repl	Misc shop supplies	1	375.00		
96#						

ESTIMATE OF RECORD

2009 OTHE Sutphen 100' areial HS4596 DIESEL red Int:

NO.	OP.	DESCRIPTION	QTY	EXT. PRICE	LABOR	PAINT
97#	Subl	3rd party test	1	1200.00	X	
98#						
99#	Subl	Return shipping OPEN to Invoice (Insurance Company) $10,000.	1		X	
		Subtotals ==>		113310.51	654.5	0.0

Parts		110910.5
Body Labor	654.5 hrs @ $100.00/hr	65450.00
Body Supplies	654.5 hrs @ $ 1.65/hr	1079.93
Sublet/Misc.		2400.00
SUBTOTAL		$179840.4
TOTAL COST OF REPAIRS		$179840.4
ADJUSTMENTS:		
Deductible		500.00
TOTAL ADJUSTMENTS		$ 500.00
NET COST OF REPAIRS		$179340.4

FOR YOUR PROTECTION ARIZONA LAW REQUIRES THE FOLLOWING STATEMENT TO APPEAR ON THIS FORM. ANY PERSON WHO KNOWINGLY PRESENTS A FALSE OR FRAUDULENT CLAIM FOR PAYMENT OF A LOSS IS SUBJECT TO CRIMINAL AND CIVIL PENALTIES.

CCC Pathways - A product of CCC Information Services Inc. The following is a list of abbreviations that may be used in CCC Pathways that are not part of the MOTOR CRASH ESTIMATING GUIDE: BAR=Bureau of Automotive Repair. EPA=Environmental Protection Agency. NHTSA=National Highway Transportation and Safety Administration. PDR=Paintless Dent Repair. VIN=Vehicle Identification Number.

Sara Beckett

From: AD Report Generator <nobody@sutdb.sutphencorp.com>
Sent: Thursday, February 28, 2013 8:53 AM
To: Sara Beckett
Subject: Report report-2013-02-28.08-53-12.28895.txt

Company: sut — Warehouse Item Listing — Page: 1
Printed by: sbeckett — Warehouse: [redacted] — Printed on: 02/28/13
All Items.

Item Number	Item Name (Truncated)	Primary Vendor	Std UOM	Quantity On Hand	Quantity Committed	Quantity On Order	Earliest Receipt	Quantity Expected	UOM	Total Cost
9600K49	RUBBER GROMMET 3/4"HOLE 3/3	MCM000	EA	16.00	0.00	0.00				7.37
at-c-2126	LACING, VERTICAL SIDE, SECT	UNION0	EA	1.00	0.00	0.00				23.10
at-c-2130	LACING,HORZ.TOP/BOTTOM,SECT	UNION0	EA	1.00	0.00	0.00				0.00*
AT-C-4861-B	PIN cable end boom sect 5	UNION0	EA	8.00	0.00	0.00				42.48
AT-C-5223	PLATE END RAIL SUPPORT	UNION0	EA	2.00	0.00	0.00				11.00
at-c-5369-d	BUCKET MOUNT WELDMENT LH	LASE00	EA	1.00	0.00	0.00				391.00
at-c-5379-d	BUCKET MOUNT WELDMENT RH	FIRE43	EA	1.00	0.00	0.00				391.00
at-c-5612-h	NLA/SEE AT-C-5612-I	THIE01	EA	1.00	0.00	0.00				
	# AT-C-5612-161									1,317.00
AT-C-5617-B	BRACKET CYLINDER ATTACHMENT	UNION0	EA	4.00	0.00	0.00				57.40
AT-C-5824-C	HANDRAIL Boom To Bucket 100	TUBULA	EA	1.00	0.00	0.00				150.00
AT-C-5966-B	BRACKET CABLE TOP BOOM SEC	LASE00	EA	4.00	0.00	0.00				49.96
AT-C-5967-B	BRACKET CABLE BOT BOOM SEC	LASE00	EA	4.00	0.00	0.00				49.96
AT-C-6151-A	BLOCK support climb ladder	DAUG01	EA	2.00	0.00	0.00				29.60
AT-C-6747-A	HARNESS bucket leveling sys	EWH000	EA	1.00	0.00	0.00				39.11
AT-C-8250-C	PLATFORM ASSY 100' 5 SECTIO	FIRE43	EA	1.00	0.00	0.00				7,796.44
GRAPHICS PKG	LETTERING & STRIPING PER SP	ASSO01	EA	0.00	0.00	1.00	02/19/13	1	EA	
KFS4912	POWER UNIT sub assy	KRAFT0	ea	1.00	0.00	0.00				1,919.56
LTP547AC1X6100H	LIGHT POLE, only, style 547	FIRE00	EA	1.00	0.00	0.00				279.94
PGP24F32-32	BEARING SELF-LUBRICATING 1.	POLY04	EA	4.00	0.00	0.00				22.68
rsl-prod	REPAIR/SERVICE/LABOR	CASH00	EA	1.00	0.00	0.00				
	# 10066601									1,497.03
	Truck: RS7911									

Total Inventory Value: 14,074.63

* Indicates Cost Layer Quantities Do Not Match Balance Quantities

PE13-017

SUTPHEN

7-25-2013

ENCLOSURE

REQUEST 4

RS8044 [redacted]

SUTPHEN®

FAMILY OWNED
SINCE 1890

Sutphen Corporation
Service Division
1653 West County Line Road
P.O. Box 1845
Springfield, OH 45501
Toll Free (866) 287-5549

No. 8044

[redacted]

DATE 6-6-13

[redacted] OH

[redacted]

MODEL	YEAR	H.S. NO.	MILEAGE
SPH-100	10/9	4666	15271

CUSTOMER ACCT. NO.	PUMP HOURS	CUSTOMER P.O.	WRITTEN BY
	1479		JEFF DENISON

DESCRIPTION OF WORK PERFORMED

PULLEY/SHIVES ABNORMAL WEAR - REPLACED 2 SHIVES 2 PINS
REALIGNED SHIVES AR HOUR 1079.2
SERVICE FAULT

Warranty

I hereby authorize the above repair work to be done along with necessary materials. You and your employees may operate above vehicle for purpose of testing, inspection or delivery at my risk. An express mechanic's lien is acknowledged on above vehicle to secure the amount of repairs thereto. You will not be held responsible for loss or damage to vehicle, or articles left in the vehicle in case of fire, theft, accident or any other cause beyond your control.

AUTHORIZED SIGN [redacted]

COST	QTY.	PART NUMBER AND DESCRIPTION	RETAIL	PRICE
	2	AT-C-2173D	SR	
	2	" " -9981E	SR	

Sutphen Corporation has performed the above itemized work. Any liability or responsibility for work not so listed is specifically denied. Inspection of the apparatus for deficiencies or problems beyond the above listed items has not been performed. Thank you for choosing Sutphen Corporation for the maintenance of your vehicle.

TRAVEL HOURS	6
LABOR HOURS	2
FUEL	
TOTAL	

PE13-017

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ENCLOSURE

REQUEST 5

Enclosed is the information that was requested as part of Preliminary Evaluation PE13-017.

5. **State, by model and model year, a total count for all the following categories of claims, collectively, that have been paid by Sutphen to date that relate to, or may relate to, the alleged defect in the subject vehicles: warranty claims; extended warranty claims; claims for good will services that were provided; field, zone, or similar adjustments and reimbursements; and warranty claims or repairs made in accordance with a procedure specified in a technical service bulletin or customer satisfaction campaign.**

   Separately, for each such claim, state the following information:
   a. Sutphen's claim number;
   b. Vehicle owner or fleet name (and fleet contact person) and telephone number;
   c. VIN;
   d. Repair date;
   e. Vehicle mileage at the time of repair;
   f. Repairing dealer's or facility's name, telephone number, city and state or ZIP code;
   g. Labor operation number;
   h. Problem code;
   i. Replacement part number(s) and description(s);
   j. Concern stated by customer; and
   k. Comment, if any, by dealer/technician relating to claim and/or repair.

   Sutphen Response: All available service records and communications have been reviewed and the totals for the different categories are enclosed. All information that is available is included.

   Of the three trucks that had repairs made, to date only two have been paid or partially paid by Sutphen. For [redacted], as a gesture of good will to a longtime customer, the cost of the repairs was discounted. For [redacted], the components replaced were under a special agreement. Prior to being bought by the [redacted], the truck was used as a demonstration unit. As such, special consideration is given to parts that may have seen more use while the truck was being demonstrated around the country.

   For the [redacted] repairs, those were handled by their insurance company and not subject to a warranty claim.

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ENCLOSURE

REQUEST 5

Claim Data

Sutphen File Number	Vehicle Owner	VIN	Repair Date	Mileage	Repair Facility	Labor Operation	Problem Code	Replacement Parts	Customer Concern	Technician Comments
RS-7815	[redacted]	1S9A3JME49[redacted]	11/27/2012	Unknown	Sutphen Service 1653 W County Line Rd Springfield, OH 45502 (866) 287-5549	n/a	n/a	AT-C-4823 C.0 Picture Frame Qty 1 AT-C-2173 D.0 Sheave Qty 2 AT-C-2251 E.0 Pin Qty 2 AT-C-4823 C.0 Support Assy Qty 1 AT-C-5030 Pin Retainer Qty 6 AT-C-5968 C.0 1-3 Cable Ret Qty 2 AT-C-5969 C.0 1-3 Cable Ext Qty 2	Cable frayed, needs replaced.	Cables adjusted too tight. Replaced all worn and damaged components. Review proper adjustment and inspection procedures.
RS-7886	[redacted]	1S9A3JLE99[redacted]	12/21/2012	Unknown	Sutphen Service 1653 W County Line Rd Springfield, OH 45502 (866) 287-5549 (repair made at owner's facility)	n/a	n/a	AT-C-2173 D.0 Sheave Qty 2 AT-C-2251 F.0 Pin Qty 2	None. Worn parts discovered during routine inspection.	Reviewed cable adjustment procedures with maintenance tech
RS-8044	[redacted]	1S9A3JME49[redacted]	6/6/2013	Unknown	Sutphen Service 1653 W County Line Rd Springfield, OH 45502 (866) 287-5549 (repair made at owner's facility)	n/a	n/a	AT-C-2173 D.0 Sheave Qty 2 AT-C-9981 A.0 Pin Qty 2	Sheaves worn, need replaced.	During previous repair, sheaves were not aligned properly which caused abnormal wear.

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SUTPHEN

7-25-2013

ENCLOSURE

REQUEST 6

Enclosed is the information that was requested as part of Preliminary Evaluation PE13-017.

6. **Describe in detail the search criteria used by Sutphen to identify the claims identified in response to Request No. 5, including labor operations, problem codes, part numbers and any other pertinent parameters used. Provide a list of all labor operations, labor operation descriptions, problem codes, and problem code descriptions applicable to the alleged defect in the subject vehicles. State, by make and model year, the terms of the new vehicle warranty coverage offered by Sutphen on the subject vehicles (i.e., the number of months and mileage for which coverage is provided and the vehicle systems that are covered). Describe any extended warranty coverage option(s) that Sutphen offered for the subject vehicles and state by option, model, and model year, the number of vehicles that are covered under each such extended warranty.**

   Sutphen Response: The vehicle files for each aerial listed in Request No. 1 were reviewed and any documentation related the subject components was noted. This included any reference to wire rope, extend/retract cables, pulleys, sheaves, bearings and other related terms. Our records for these vehicles are kept in individual files at our service facility. For this request, all files for the subject vehicles were manually reviewed.

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SUTPHEN

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ENCLOSURE

REQUEST 7

Enclosed is the information that was requested as part of Preliminary Evaluation PE13-017.

7. **Produce copies of all service, warranty, and other documents that relate to, or may relate to, the alleged defect in the subject vehicles, that Sutphen has issued to any dealers, regional or zone offices, field offices, fleet purchasers, or other entities. This includes, but is not limited to, bulletins, advisories, informational documents, training documents, or other documents or communications, with the exception of standard shop manuals. Also include the latest draft copy of any communication that Sutphen is planning to issue within the next 120 days.**

   Sutphen Response: Please see the enclosed information. Immediately following the incident, Sutphen issued a memo to all of our dealers. It explained the situation as we knew it at that time. This is included as file "Memo to Sutphen Dealer Network re GV Incident, 8-17-12". As the investigation progressed, Sutphen issued a Service Bulletin to all departments that have a Sutphen Aerial. This bulletin was intended to be a reminder to the departments on the importance of proper inspections and maintenance. It also provided contact details if the customer needed more information. This is included as file "Service Bulletin-Maintenance"

PE13-017

SUTPHEN

7-25-2013

ENCLOSURE

REQUEST 7

Memo to Sutphen Dealer Network re GV Incident, 8-17-12

August 17, 2012

OFFICIAL MEMO

To: The Sutphen Dealer Network

From: Ken Creese – Director, Sales and Marketing

RE: [redacted] AZ SPH 100 Aerial Platform incident

As some of you may already be aware, the [redacted] Fire Department in Arizona experienced an incident with their 2009 SPH 100 Aerial Platform. The unit was set up for a PR event at the fire department.

At the time of the incident, the platform was carrying an operator and four (4) civilian passengers, all of which were belted into the platform. The aerial experienced a rapid descope and came to an abrupt stop.

Upon hearing of the incident, Sutphen immediately sent a team of factory representatives to the department to both support the department personnel and to investigate the possible cause. Our initial investigation shows that this is a specific and isolated incident that is not related to any design or manufacturing defect. Sutphen is not in a position to offer any further comment until the Arizona Department of Public Safety has filed their official report. We expect this early next week.

Sutphen will continue to work with the department throughout the investigation and work to put the truck back into service.

Should you receive calls from concerned customers, please feel free to share this information with them.

PE13-017

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ENCLOSURE

REQUEST 7

Service Bulletin-Maintenance

Service Bulletin
August 21, 2012
Aerial Maintenance

Maintenance is the key to keeping fire apparatus in good working order. A properly maintained truck will operate as designed for the life of the machine. We would like to remind all customers to be diligent in following recommended maintenance outlined in your **"Operator and Maintenance Manual"** provided with the truck at the time of delivery. This manual will provide insight to proper lubrication intervals, lubrication points, inspection procedures, bolt torque requirements and recommended lubrication materials. The manual covers a wide range of important components that require ongoing maintenance such as:

Pivot Shaft Bearing
Torque Requirements of Bolts
Aerial Extension and Retraction Cylinders
Slide Blocks
Aerial Device Structure
Turn Table Bearing
Rotation Gear
Sheaves and Cables
Waterway and Seals
Cable Adjustment Procedures

Every aspect of the preventive maintenance requirements is important. No one component is more import than the other. All items must be given proper care to avoid premature wear and or failure.

- If for any reason you do not have the original manuals please contact the Sutphen Service Department so we can assist you and get you the information you need.
- If you have any doubts as to procedures immediately contact the Sutphen Service Department or your Authorized Sutphen Service Center.
- If you have any concerns as to the condition of a component after performing a daily, weekly, or monthly inspection or maintenance procedure immediately contact the Sutphen Service Department or your Authorized Sutphen Service Center.

Models SPH100, SP95, SP110, SP100

Parts and Service
1653 West County Line Road
Springfield, Ohio 45501
1-866-287-5549

Models SP70, SA75, SL75, SL100

Parts and Service
4500 Sutphen Court
Hilliard, Ohio 43026
1-800-343-2712

Sutphen Corporation and its authorized service centers are your partners with a goal to assure that your apparatus operates as expected when the need arises. There is no question or request for assistance that is too small or large.

PE13-017

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7-25-2013

ENCLOSURE

REQUEST 8

Enclosed is the information that was requested as part of Preliminary Evaluation PE13-017.

8. **Describe all assessments, analyses, tests, test results, studies, surveys, simulations, investigations, inquiries and/or evaluations (collectively, "actions") that relate to, or may relate to, the alleged defect in the subject vehicles that have been conducted, are being conducted, are planned, or are being planned by, or for, Sutphen. For each such action, provide the following information:**
    a. Action title or identifier;
    b. The actual planned or start date;
    c. The actual expected end date;
    d. Brief summary of the subject and objective of the action;
    e. Engineering group(s)/supplier(s) responsible for designing and for conducting the action; and
    f. A brief summary of the findings and/or conclusions resulting from this action.

Sutphen Response: Please see the enclosed information.

The day after the incident mentioned in the Vehicle Owner's Questionnaire, three representatives from Sutphen were on the scene to investigate what happened and provide assistance to the fire department. There is a Sutphen document title "Accident Investigation Report – 8-20-12" that details the information that was available at that time.

On two other occasions in the weeks following the incident, Sutphen sent representatives to Green Valley to provide assistance to the other parties involved in the investigation. These were support trips only, and no reports were generated.

In late 2012, the truck was shipped back to Sutphen's facility in Ohio. In January 2013, all of the interested parties gathered to inspect the truck and observe the disassembly of the ladder. Everyone was given the opportunity to photograph, measure and document the ladder assembly as it was being disassembled. Once everyone had the information they needed, the repair of the truck was authorized. Sutphen has not requested or performed any analysis on the components that were removed from the vehicle. To our knowledge, the items in question are being held as evidence pending potential future litigation.

Immediately following the incident, the engineering calculations that were done during the initial development of the particular model were reviewed and double-checked. No discrepancies were found. Likewise, the current production parts were checked against the prints, all were found to be within specification. These activities were done informally, and no official report was generated.

Most all of the early indications were that maintenance and inspection were contributing factors to this incident. Also due to various reasons, such as budget changes, retirements, etc…, the fire service has seen a lot of turnover and changes in their maintenance departments. For these reasons, Sutphen decided to develop a plan to assist fire departments. Sutphen representatives visited fire departments that owned or operated Sutphen aerials and provided them with up-to-date training on the inspection and maintenance these apparatus. While on these visits, the aerial platforms were inspected and any components that were in need of replacement were noted and scheduled for repair.

PE13-017

SUTPHEN

7-25-2013

ENCLOSURE

REQUEST 8

Accident Investigation Report - 8-20-12

Attorney-Client Privilege

Date: August 20, 2012

To: Steven Potts, David Weber (Potts & Associates), Jim Juneau (Juneau Stacy & Ucherek)

To: Drew Sutphen, Julie Phelps, Eric Bates

From: Ken Creese

Re: Accident Investigation – Production #HS4596 [redacted] AZ, SPH100 Aerial Platform

At approximately 11:30 pm on Wednesday August 15th I received a call from Scott Herb (original sales person for this machine) telling me that the SPH100 aerial platform in [redacted] AZ experienced some type of failure and that several people were hurt. We assembled a team to go to [redacted] to provide investigative support. The team included me, Paul Miller (Production Manager) and Gene Maharg (Delivery Engineer and Aerial Technician). The following is a brief outline of what we were told happened:

The fire department was hosting a group of people from the local Rotary Club. They were invited to have dinner with the fire fighters on shift at station [redacted]. At some time during the event the guests were invited to take a ride in the aerial platform. One (1) firefighter and four (4) civilians were in the work platform and extending out at an angle of 40 degrees. At about two thirds extension the device stopped extending. It is unknown if the operator continued to attempt to extend the device. It then rapidly retracted. Everyone was wearing safety harnesses. ***Note that on August 20th we viewed a photo from a news article in the [redacted] News. This photo shows the rescue effort to remove the occupants of the aerial platform. The angle of the bucket in the photo leads us to believe that the aerial was at a steeper angle than we were told. It may have been as steep as 65 to 70 degrees.***

We boarded get a flight to Tucson at 7:45 am on August 16th less than 9 hours after learning of the incident. We arrived on site at approximately 1:00 pm August 16, 2012. The truck was parked at the rear of the fire station just behind the center bay. This is the position the truck was in when the accident occurred. The stabilizers were deployed and the aerial device was bedded. However, the aerial was not completely retracted. Two cables where lying off the left side of the vehicle. The entire area was closed off with yellow plastic tape.

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Attorney-Client Privilege

Photo showing the cables lying off the side of the apparatus

We approached the group of people near the truck and were introduced to [redacted] who is an investigator with the AZ Department of Public Safety.

6401 S Tucson Blvd
Tucson AZ [redacted]

There were also several firefighters and the fire Chief [redacted].

Mr [redacted] explained that the DPS had cut some of the cabling for samples and had taken the two cable ends to their facility. We did not get a chance to see the cable end pieces. We were told that we could get access to the components upon request. I questioned the cutting of the cables with surprise.

Officer [redacted] explained his concern was with two pulley sheaves located at the end of the second boom section. He asked us to look at the two sheave wheels. He wanted to know if it was normal for them to be tight and not turn. The two wheels appeared to be off center by about ½" and locked up tight. We explained that it was not normal.

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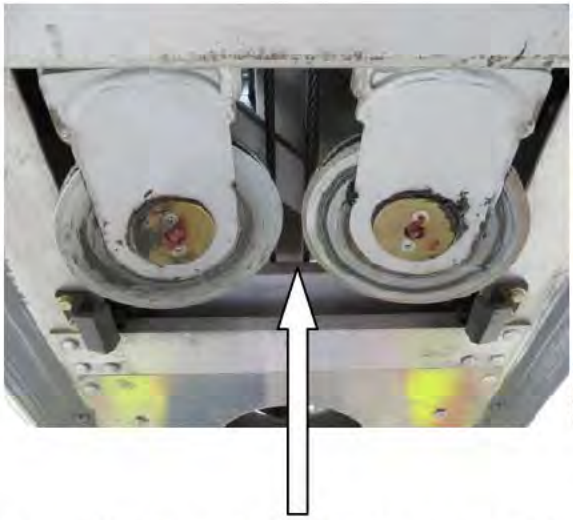
Attorney-Client Privilege



Note in the above photos that there is no visible grease around the sheave wheel and that the wheel is pulled off center approximately 3/8". These two wheels could not be turned by hand.

It is important to note that both extend cables failed.

Below are photos of the same components on a truck (Rostraver PA # HS4382) that was manufactured one year prior to the [redacted] unit. The grease is plainly visible and the pulley wheels are centered.

We did find one cable end that was frayed.

Visible broken strands of the extend cables

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Officer [redacted] told us he had already requested a mechanic to come to the site. [redacted] a mechanic for [redacted] in Tucson arrived about 90 minutes after we began taking photos of the truck.

When [redacted] arrived we had swung the boom to the right sight side of the apparatus to get a better view of the underside of the boom assembly.

Mr. [redacted] asked [redacted] to take the pulley wheels apart. The pin appeared to be difficult to remove and required considerable force to drive the pin out.

Once the first wheel was removed we found that there was no visible lubricant and the composite bearing was worn completely away on one side. The pin itself was worn flat about 3/16 to 1/4". The wheel is showing signs of abnormal wear on both the top and bottom side where it was rubbing on the bracket.

Worn Pulley Pin

Composite Bearing showing 70% to 80% of the material worn away.

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Attorney-Client Privilege

Sheave Wheel showing metal on metal contact and no lubrication. Note that the outside area was also rubbing on the bracket. This would make one assume that no lubrication is the cause of this wear.

For comparison, below are photos of the Rostraver PA unit

Sheave Wheel Pin with no wear

Sheave wheel with no wear, unlike the components on the [redacted] unit

Attorney-Client Privilege

Composite Bearing as installed in the wheel. No signs of wear. This wheel is from the Rostraver unit that is one year older than the [redacted] unit.

Once the components where removed from the [redacted] aerial boom Mr. [redacted] asked us our opinion and weather we felt the lack of lubrication was the root cause of the component failure. We declined to draw a conclusion until our engineers had time to review the information collected. However, when he asked [redacted] (United Fire Equipment) his opinion as to what caused the problem; [redacted] told him that it was a lack of grease.

Nearing the later part of the day we had decided that we had seen enough. We waited around for what we thought was going to be an insurance adjuster but that person did not arrive. However, an Attorney for [redacted] insurance company did come for a few minutes and spoke privately with the Fire Chief. The Chief informed us that the truck was going to be kept in the bay, instead of being sent back to the factory for repairs as that they planned to have some metallurgical evaluation done.

We then asked for copies of the truck's maintenance records and were told that we could get them in the morning. The next morning we stopped by at 9:00 am and picked up a large envelope and headed to the airport to return home. After opening the envelope we found that it contained some invoices for various parts that were bought for the truck from suppliers such as Hale Products (Pump Manufacturer) and some data on annual inspections by a third party firm. It did not contain any information associated with daily weekly or monthly checks that should be done and documented. At 4:15 pm Monday the 20th I contacted Chief [redacted] to inform him that these documents where not in the envelope and he said they are currently compiling this information.

All of the components that were removed from the [redacted] truck were taken into evidence by [redacted]. He stated that we would have access to these parts at any time.

We have approximately 125 photos taken while we were on site in [redacted]. [redacted] of the AZ DPS stated he had nearly 200 or more. We asked him to share those but he said he was not able to. We don't have any photos taken immediately after the incident that would provide definitive proof of extension and angle of the boom. The photos are contained on the drives provided.

Things we do not know:

- What was the actual load in the platform at the time of the incident? It is reported that there were (5) people. What is the combined weight of the people?
- What was the angle the aerial device was operating at? Department states 40 degrees. However, one photo from the news report leads us to believe it was steeper.
- Were the cable properly adjusted?
- Had there been any reports by the firefighters about noise or squealing when operating the aerial?
- We have not been given or seen any records relative the daily, weekly and monthly maintenance on the cables and or sheave system.
- This is a dual cable system; did one cable break prior to the other?

End of Report

PE13-017

SUTPHEN

7-25-2013

ENCLOSURE

REQUEST 9

Enclosed is the information that was requested as part of Preliminary Evaluation PE13-017.

9. **Describe all modifications or changes made by, or on behalf of, Sutphen in the design, material composition, manufacture, quality control, supply, or installation of the subject component, from the start of production to date, which relate to, or may relate to, the alleged defect in the subject vehicles. For each such modification or change, provide the following information:**
    a. The date or approximate date on which the modification or change was incorporated into vehicle production;
    b. A detailed description of the modification or change;
    c. The reason(s) for the modification or change;
    d. The part number(s) (service and engineering) of the original component;
    e. The part number(s) (service and engineering) of the modified component;
    f. Whether the original unmodified component was withdrawn from production and/or sale, and if so, when;
    g. When the modified component was made available as a service component; and
    h. Whether the modified component can be interchanged with earlier production components.

Sutphen Response:
The ladder extension and retraction is controlled by a hydraulic cylinder that is anchored to section 1 of the ladder, with the other end attached to section 2. A cable and sheave system is then used to control the extension and retraction of the other boom sections. There is one set of cables that control the extension and a separate set to that is used to retract the ladder. It is a redundant design, where there are two sets of cables to perform each function. The cables are connected between three adjacent boom sections. They are anchored to one section, pass over sheaves in the second section and then are anchored to the third section. So for example, a 1-3 Extend cable would be used to control ladder sections 1, 2 and 3. It would be anchored to section 1, pass over sheaves in section 2, and then be anchored to section 3. One cable would be on the right side, with a second cable on the left side.

The data included with this request details all the sheave assemblies, pins, keepers and cables associated with the ladder extension and retraction system on the subject vehicles. Not all parts are used on all models. The spreadsheet titles “Component Changes” details the revisions to the various components that are part of the cable extend/retract system. There are also files named “Production Data Details” which calls out which version of the parts were installed on the subject vehicles. There separate files for Sutphen Corporation and Sutphen Towers trucks.

The majority of changes deal with very minor revisions. Things such as updates to drawing notes and changes to the type of plating used. All of these were running changes, with the older parts being interchangeable with newer versions.

Early in the development of the SPH 100 model, the type of bearing used in the sheave was changed. The original design utilized a roller-type bearing. In early 2008 the bearing was changed to a composite bushing. All SPH 100 trucks were retro-fitted with the new design.

Following the incident in Green Valley, the component designs were reviewed. Some changes were made to make the components more durable in cases were maintenance and inspections are possibly not being performed properly.

PE13-017

SUTPHEN

7-25-2013

ENCLOSURE

REQUEST 9

Component Changes Sutphen Corp

7-inch Sheave Assembly
AT-C-2173

	Release Date	Production Date	Description of Change	Reason for Change	Original Part Number	Revised Part Number	Withdrawn from Production	Interchangeable?
Initial Release	11/9/2000	Initial development of SP 110 model.	Initial release	n/a	AT-C-2173	AT-C-2173	n/a	n/a
First Revision	10/10/2003	Documentation change only. No effect on parts.	Add note about the next assembly part numbers	More information needed for BOM purposes	AT-C-2173	AT-C-2173 A	No effect on parts	No effect on parts
Second Revision	10/24/2004	Running change effective with next order and based upon the consumption of existing inventory.	Add chamfer to outer edge of sheave. Add more info to bearing assembly.	Edge of sheave chamfered to provide more clearance during installation. Bearing information added for documentation purposes.	AT-C-2173 A	AT-C-2173 B.0	Previous design used until revised parts were ready for production.	Newer and older versions are interchangeable. However, previous design no longer available.
Third Revision	6/12/2006	Running change effective with next order and based upon the consumption of existing inventory.	Replace chamfer at edge with radius. Redrawn from AutoCAD into SolidWorks.	The radius provided a smoother, rounder outer edge than the chamfer. It also tightened up the gap between the mounting lug and sheave.	AT-C-2173 B.0	AT-C-2173 C.0	Previous design used until revised parts were ready for production.	Newer and older versions are interchangeable. However, previous design no longer available.
Fourth Revision	2/12/2008	With next production truck. All field trucks were retro-fitted with new design.	Replaced roller bearing with Polygon composite bushing.	New Polygon composite bushing found to have higher load carrying capability and require less maintenance.	AT-C-2173 C.0	AT-C-2173 C.1	Effective immediately. All trucks in field were retro-fitted with new design.	Newer and older versions are interchangeable. However, previous design no longer available.
Fifth Revision	3/18/2010	Running change effective with next order and based upon the consumption of existing inventory.	Plating was changed from bright zinc (silver color) to yellow zinc cobalt (gold color).	Plating was revised to something more readily available and cost effective.	AT-C-2173 C.1	AT-C-2173 D.0	Previous design used until revised parts were ready for production.	Newer and older versions are interchangeable. However, previous design no longer available.
Sixth Revision	11/29/2012	Running change effective with next order and based upon the consumption of existing inventory.	Add more details to adhesive used during bushing installation.	More information needed.	AT-C-2173 D.0	AT-C-2173 E.0	Previous design used until revised parts were ready for production.	Newer and older versions are interchangeable. However, previous design no longer available.
Seventh Revision	PROPOSED	Proposed change that may take effect in the next 120 days.	Revise plating note	Revise plating for aesthetic reasons.	AT-C-2173 E.0	AT-C-2173 F.0	Previous design used until revised parts were ready for production.	Newer and older versions are interchangeable. However, previous design no longer available.

6-inch Sheave Assembly
AT-C-2202

	Release Date	Production Date	Description of Change	Reason for Change	Original Part Number	Revised Part Number	Withdrawn from Production	Interchangeable
Initial Release	10/17/2000	Initial development of SP 110 model.	Initial release	n/a	AT-C-2202	AT-C-2202	n/a	n/a
First Revision	11/19/2002	Documentation change only. No effect on parts.	Add dimensions and notes	More information needed on drawing	AT-C-2202	AT-C-2202 A	No effect on parts	No effect on parts
Second Revision	10/20/2003	Documentation change only. No effect on parts.	Add note about the next assembly part numbers	More information needed for BOM purposes	AT-C-2202 A	AT-C-2202 B	No effect on parts	No effect on parts
Third Revision	10/24/2004	Running change effective with next order and based upon the consumption of existing inventory.	Add chamfer to outer edge of sheave. Add more info to bearing assembly.	Edge of sheave chamfered to provide more clearance during installation. Bearing information added for documentation purposes.	AT-C-2202 B	AT-C-2202 C.0	Previous design used until revised parts were ready for production.	Newer and older versions are interchangeable. However, previous design no longer available.
Fourth Revision	6/12/2006	Running change effective with next order and based upon the consumption of existing inventory.	Replace chamfer at edge with radius. Redrawn from AutoCAD into SolidWorks.	The radius provided a smoother, rounder outer edge than the chamfer. It also tightened up the gap between the mounting lug and sheave.	AT-C-2202 C.0	AT-C-2202 D.0	Previous design used until revised parts were ready for production.	Newer and older versions are interchangeable. However, previous design no longer available.
Fifth Revision	12/14/2006	Documentation change only. No effect on parts.	Replaced missing notes.	Replaced notes that were inadvertantly removed.	AT-C-2202 D.0	AT-C-2202 D.1	No effect on parts	No effect on parts
Sixth Revision	2/12/2008	With next production truck. All field trucks were retro-fitted with new design.	Replaced roller bearing with Polygon composite bushing.	New Polygon composite bushing found to have higher load carrying capability and require less maintenance.	AT-C-2202 D.1	AT-C-2202 E.0	Effective immediately. All trucks in field were retro-fitted with new design.	Newer and older versions are interchangeable. However, previous design no longer available.
Seventh Revision	3/18/2010	Running change effective with next order and based upon the consumption of existing inventory.	Plating was changed from bright zinc (silver color) to yellow zinc cobalt (gold color).	Plating was revised to something more readily available and cost effective.	AT-C-2202 E.0	AT-C-2202 F.0	Previous design used until revised parts were ready for production.	Newer and older versions are interchangeable. However, previous design no longer available.
Eighth Revision	11/29/2012	Running change effective with next order and based upon the consumption of existing inventory.	Add more details to adhesive used during bushing installation.	More information needed.	AT-C-2202 F.0	AT-C-2202 G.0	Previous design used until revised parts were ready for production.	Newer and older versions are interchangeable. However, previous design no longer available.
Ninth Revision	PROPOSED	Proposed change that may take effect in the next 120 days.	Revise plating note	Revise plating for aesthetic reasons.	AT-C-2202 G.0	AT-C-2202 H.0	Previous design used until revised parts were ready for production.	Newer and older versions are interchangeable. However, previous design no longer available.

Polygon Sheave Bushing
AT-C-7075

	Release Date	Production Date	Description of Change	Reason for Change	Original Part Number	Revised Part Number	Withdrawn from Production	Interchangeable
Initial Release	2/12/2008	Running change effective with next order and based upon the consumption of existing inventory.	Initial release	Better matieral (higher load capacity and less maintainence) to replace roller bearings	AT-C-7075 A.0	AT-C-7075 A.0	Used in sheave assemblies to replace roller bearings. All field trucks were retrofitted with new parts.	Newer and older versions are interchangeable. However, previous design no longer available.

Sheave Pin Assembly
AT-C-2174

	Release Date	Production Date	Description of Change	Reason for Change	Original Part Number	Revised Part Number	Withdrawn from Production	Interchangeable
Initial Release	8/15/2000	Initial development of SP 110 model.	Initial release	n/a	AT-C-2174	AT-C-2174	n/a	n/a
First Revision	10/20/2003	Documentation change only. No effect on parts.	Add note about the next assembly part numbers	More information needed for BOM purposes	AT-C-2174	AT-C-2174 A	No effect on parts	No effect on parts
Second Revision	4/20/2004	Running change effective with next order and based upon the consumption of existing inventory.	Made pin longer	Longer pin needed for better fit during initial assembly	AT-C-2174 A	AT-C-2174 B.0	Previous design used until revised parts were ready for production.	Newer and older versions are interchangeable. However, previous design no longer available.
Third Revision	10/24/2004	Running change effective with next order and based upon the consumption of existing inventory.	Change type of screw	Different head design needed for better clearance	AT-C-2174 B.0	AT-C-2174 C.0	Previous design used until revised parts were ready for production.	Newer and older versions are interchangeable. However, previous design no longer available.
Fourth Revision	11/28/2012	Running change effective with next order and based upon the consumption of existing inventory.	Change pin from AT-C-2251 to AT-C-9981.	New pin design for better performance	AT-C-2174 C.0	AT-C-2174 D.0	Previous design used until revised parts were ready for production.	Newer and older versions are interchangeable. However, previous design no longer available.

Sheave Pin
AT-C-2251

	Release Date	Production Date	Description of Change	Reason for Change	Original Part Number	Revised Part Number	Withdrawn from Production	Interchangeable
Initial Release	10/24/2000	Initial development of SP 110 model.	Initial release	n/a	AT-C-2251	AT-C-2251	n/a	n/a
First Revision	5/4/2001	Running change effective with next order and based upon the consumption of existing inventory.	Add grease groove	Better grease distribution needed for roller bearing	AT-C-2251	AT-C-2251 A	Previous design used until revised parts were ready for production.	Newer and older versions are interchangeable. However, previous design no longer available.
Second Revision	9/11/2002	Running change effective with next order and based upon the consumption of existing inventory.	Add finish note and update plating note	More detail needed on desired finish	AT-C-2251 A	AT-C-2251 B	Previous design used until revised parts were ready for production.	Newer and older versions are interchangeable. However, previous design no longer available.
Third Revision	10/29/2002	Running change effective with next order and based upon the consumption of existing inventory.	Update tolerances on pin dimensions	Better tolerances needed to schieve desired fit	AT-C-2251 B	AT-C-2251 C	Previous design used until revised parts were ready for production.	Newer and older versions are interchangeable. However, previous design no longer available.
Fourth Revision	4/20/2004	Running change effective with next order and based upon the consumption of existing inventory.	Revised length dimension and tolerances	Lengthened pin for better fit	AT-C-2251 C	AT-C-2251 D	Previous design used until revised parts were ready for production.	Newer and older versions are interchangeable. However, previous design no longer available.
Fifth Revision	3/17/2010	Running change effective with next order and based upon the consumption of existing inventory.	Rotated flat edge 90° and updated plating note	Head rotated to reorient bolt head locations. Plating updated to better option.	AT-C-2251 D	AT-C-2251 E.0	Previous design used until revised parts were ready for production.	Newer and older versions are interchangeable. However, previous design no longer available.
Sixth Revision	10/16/2012	Running change effective with next order and based upon the consumption of existing inventory.	Drill .125 grease hole all the way through pin	Provide better grease distribution	AT-C-2251 E.0	AT-C-2251 F.0	Previous design used until revised parts were ready for production.	Newer and older versions are interchangeable. However, previous design no longer available.

NOTE: Pin was obsoleted and replaced with AT-C-9981

Sheave Pin
AT-C-9981

	Release Date	Production Date	Description of Change	Reason for Change	Original Part Number	Revised Part Number	Withdrawn from Production	Interchangeable
Initial Release	11/28/2012	Running change effective with next order and based upon the consumption of existing inventory.	Initial release	Stronger plating and smoother surface for increased bearing performance. New part number created for BOM/service tracking purposes.	AT-C-9981	AT-C-9981	Previous design used until revised parts were ready for production.	Newer and older versions are interchangeable. However, previous design no longer available.

NOTE: Pin AT-C-9981 was replacement for obsoleted pin AT-C-2251

Pin Keeper Plate
AT-C-2252

	Release Date	Production Date	Description of Change	Reason for Change	Original Part Number	Revised Part Number	Withdrawn from Production	Interchangeable
Initial Release	10/24/2000	Initial development of SP 110 model.	Initial release	n/a	AT-C-2252	AT-C-2252	n/a	n/a
First Revision	10/27/2004	Running change effective with next order and based upon the consumption of existing inventory.	Increased outside diamter and grease hole dimension	Larger plate for more strength	AT-C-2252	AT-C-2252 A.0	Previous design used until revised parts were ready for production.	Newer and older versions are interchangeable. However, previous design no longer available.
Second Revision	3/17/2010	Running change effective with next order and based upon the consumption of existing inventory.	Change plating information and revise grease hole	Plating change to more cost effective option	AT-C-2252 A.0	AT-C-2252 B.0	Previous design used until revised parts were ready for production.	Newer and older versions are interchangeable. However, previous design no longer available.

Sections 1-3 Retract Cable
AT-C-5968

	Release Date	Production Date	Description of Change	Reason for Change	Original Part Number	Revised Part Number	Withdrawn from Production	Interchangeable
Initial Release	11/10/2004	Initial development of SPH 100 model	Initial release	n/a	AT-C-5968 A.0	AT-C-5968 A.0	n/a	n/a
First Revision	8/25/2006	Running change effective with next order and based upon the consumption of existing inventory.	Increased length of threads on stud bolt	Longer threads to allow for more cable adjustment	AT-C-5968 A.0	AT-C-5968 B.0	Previous design used until revised parts were ready for production.	Newer and older versions are interchangeable. However, previous design no longer available.
Second Revision	10/19/2007	Running change effective with next order and based upon the consumption of existing inventory.	Add "pre-stretched" to wire rope designation	Prestretched rope has less break-in stretch during initial assembly, resulting in less cable adjustment.	AT-C-5968 B.0	AT-C-5968 C.0	Previous design used until revised parts were ready for production.	Newer and older versions are interchangeable. However, previous design no longer available.

Sections 1-3 Extend Cable
AT-C-5969

	Release Date	Production Date	Description of Change	Reason for Change	Original Part Number	Revised Part Number	Withdrawn from Production	Interchangeable
Initial Release	11/10/2004	Initial development of SPH 100 model	Initial release	n/a	AT-C-5969 A.0	AT-C-5969 A.0	n/a	n/a
First Revision	8/25/2006	Running change effective with next order and based upon the consumption of existing inventory.	Increased length of threads on stud bolt	Longer threads to allow for more cable adjustment	AT-C-5969 A.0	AT-C-5969 B.0	Previous design used until revised parts were ready for production.	Newer and older versions are interchangeable. However, previous design no longer available.
Second Revision	10/19/2007	Running change effective with next order and based upon the consumption of existing inventory.	Add "pre-stretched" to wire rope designation	Prestretched rope has less break-in stretch during initial assembly, resulting in less cable adjustment.	AT-C-5969 B.0	AT-C-5969 C.0	Previous design used until revised parts were ready for production.	Newer and older versions are interchangeable. However, previous design no longer available.

Sections 2-4 Extend/Retract Cable
AT-C-5970

	Release Date	Production Date	Description of Change	Reason for Change	Original Part Number	Revised Part Number	Withdrawn from Production	Interchangeable
Initial Release	11/10/2004	Initial development of SPH 100 model	Initial release	n/a	AT-C-5970 A.0	AT-C-5970 A.0	n/a	n/a
First Revision	8/25/2006	Running change effective with next order and based upon the consumption of existing inventory.	Increased length of threads on stud bolt	Longer threads to allow for more cable adjustment	AT-C-5970 A.0	AT-C-5970 B.0	Previous design used until revised parts were ready for production.	Newer and older versions are interchangeable. However, previous design no longer available.
Second Revision	10/19/2007	Running change effective with next order and based upon the consumption of existing inventory.	Add "pre-stretched" to wire rope designation	Prestretched rope has less break-in stretch during initial assembly, resulting in less cable adjustment.	AT-C-5970 B.0	AT-C-5970 C.0	Previous design used until revised parts were ready for production.	Newer and older versions are interchangeable. However, previous design no longer available.

Sections 3-5 Extend Cable
AT-C-5971

	Release Date	Production Date	Description of Change	Reason for Change	Original Part Number	Revised Part Number	Withdrawn from Production	Interchangeable
Initial Release	11/10/2004	Initial development of SPH 100 model	Initial release	n/a	AT-C-5971 A.0	AT-C-5971 A.0	n/a	n/a
First Revision	8/25/2006	Running change effective with next order and based upon the consumption of existing inventory.	Increased length of threads on stud bolt	Longer threads to allow for more cable adjustment	AT-C-5971 A.0	AT-C-5971 B.0	Previous design used until revised parts were ready for production.	Newer and older versions are interchangeable. However, previous design no longer available.
Second Revision	10/19/2007	Running change effective with next order and based upon the consumption of existing inventory.	Add "pre-stretched" to wire rope designation	Prestretched rope has less break-in stretch during initial assembly, resulting in less cable adjustment.	AT-C-5971 B.0	AT-C-5971 C.0	Previous design used until revised parts were ready for production.	Newer and older versions are interchangeable. However, previous design no longer available.

Sections 3-5 Retract Cable
AT-C-5972

	Release Date	Production Date	Description of Change	Reason for Change	Original Part Number	Revised Part Number	Withdrawn from Production	Interchangeable
Initial Release	11/10/2004	Initial development of SPH 100 model	Initial release	n/a	AT-C-5972 A.0	AT-C-5972 A.0	n/a	n/a
First Revision	8/25/2006	Running change effective with next order and based upon the consumption of existing inventory.	Increased length of threads on stud bolt	Longer threads to allow for more cable adjustment	AT-C-5972 A.0	AT-C-5972 B.0	Previous design used until revised parts were ready for production.	Newer and older versions are interchangeable. However, previous design no longer available.
Second Revision	10/19/2007	Running change effective with next order and based upon the consumption of existing inventory.	Add "pre-stretched" to wire rope designation	Prestretched rope has less break-in stretch during initial assembly, resulting in less cable adjustment.	AT-C-5972 B.0	AT-C-5972 C.0	Previous design used until revised parts were ready for production.	Newer and older versions are interchangeable. However, previous design no longer available.
Third Revision	PROPOSED	Running change effective with next order and based upon the consumption of existing inventory.	Change length 246.50in	Extra length to provide more adjustment.	AT-C-5972 C.0	AT-C-5972 D.0	Previous design used until revised parts were ready for production.	Newer and older versions are interchangeable. However, previous design no longer available.

Sections 1-3 Retract Cable
AT-C-2715

	Release Date	Production Date	Description of Change	Reason for Change	Orig nal Part Number	Rev sed Part Number	Withdrawn from Production	Interchangeable
Initial Release	1/12/2001	In t al development of SP 110 model	In t al elease	n/a	AT-C-2715	AT-C-2715	n/a	n/a
First Revision	11/8/2002	Obsoleted pa t	Obsoleted pa t, eplaced w th AT-C-2716.	Afte ev s ng lengths, two cables we e nte changeable	n/a	n/a	Replaced w th tem AT-C-2716. Neve used n p oduct on.	Not nte changeable

Sections 1-3 Extend/Retract Cable
AT-C-2716

	Release Date	Production Date	Description of Change	Reason for Change	Orig nal Part Number	Rev sed Part Number	Withdrawn from Production	Interchangeable
Initial Release	1/12/2001	In t al development of SP 110 model	In t al elease	n/a	AT-C-2716	AT-C-2716	n/a	n/a
First Revision	1/8/2002	Effect ve on p ototype t uck	Reduce length	Sho te length fo bette f t	AT-C-2716	AT-C-2716 A.0	W thd awn du ng p ototype development	Not nte changeable
Second Revision	10/25/2002	Effect ve on p ototype t uck	Reduce length	Sho te length fo bette f t	AT-C-2716 A	AT-C-2716 B 0	W thd awn du ng p ototype development	Not nte changeable
Third Revision	11/22/2004	Runn ng change effect ve w th next o de and based upon the consumpt on of ex st ng nvento y	Add plat ng note to d aw ng	Plat ng nfo mat on needed fo vendo	AT-C-2716 B	AT-C-2716 C 0	P ev ous des gn used unt l ev sed pa ts we e eady fo p oduct on.	Newe and olde ve s ons a e nte changeable. Howeve , p ev ous des gn no longe ava lable.
Fourth Revision	8/25/2006	Runn ng change effect ve w th next o de and based upon the consumpt on of ex st ng nvento y	Inc eased length of th eads on stud bolt	Longe th eads to allow fo mo e cable adjustment	AT-C-2716 C.0	AT-C-2716 D 0	P ev ous des gn used unt l ev sed pa ts we e eady fo p oduct on.	Newe and olde ve s ons a e nte changeable. Howeve , p ev ous des gn no longe ava lable.

Sections 2-4 Extend Cable
AT-C-2718

	Release Date	Production Date	Description of Change	Reason for Change	Orig nal Part Number	Rev sed Part Number	Withdrawn from Production	Interchangeable
Initial Release	1/12/2001	In t al development of SP 110 model	In t al elease	n/a	AT-C-2718	AT-C-2718	n/a	n/a
First Revision	1/8/2002	Effect ve on p ototype t uck	Reduce length	Sho te length fo bette f t	AT-C-2718	AT-C-2718 A.0	W thd awn du ng p ototype development	Not nte changeable
Second Revision	10/21/2002	Effect ve on p ototype t uck	Reduce length	Sho te length fo bette f t	AT-C-2718 A	AT-C-2718 B 0	W thd awn du ng p ototype development	Not nte changeable
Third Revision	10/25/2002	Effect ve on p ototype t uck	Reduce length	Sho te length fo bette f t	AT-C-2718 B	AT-C-2718 C 0	W thd awn du ng p ototype development	Not nte changeable
Fourth Revision	11/22/2004	Runn ng change effect ve w th next o de and based upon the consumpt on of ex st ng nvento y	Add plat ng note to d aw ng	Plat ng nfo mat on needed fo vendo	AT-C-2718 C.0	AT-C-2718 D 0	P ev ous des gn used unt l ev sed pa ts we e eady fo p oduct on.	Newe and olde ve s ons a e nte changeable. Howeve , p ev ous des gn no longe ava lable.
Fifth Revision	3/17/2010	Runn ng change effect ve w th next o de and based upon the consumpt on of ex st ng nvento y	Inc eased length of th eads on stud bolt	Longe th eads to allow fo mo e cable adjustment	AT-C-2718 D.0	AT-C-2718 E.0	P ev ous des gn used unt l ev sed pa ts we e eady fo p oduct on.	Newe and olde ve s ons a e nte changeable. Howeve , p ev ous des gn no longe ava lable.

Sections 2-4 Retract Cable
AT-C-2717

	Release Date	Production Date	Description of Change	Reason for Change	Orig nal Part Number	Rev sed Part Number	Withdrawn from Production	Interchangeable
Initial Release	1/12/2001	In t al development of SP 110 model	In t al elease	n/a	AT-C-2717	AT-C-2717	n/a	n/a
First Revision	9/6/2002	Effect ve on p ototype t uck	Reduce length	Sho te length fo bette f t	AT-C-2717	AT-C-2717 A.0	W thd awn du ng p ototype development	Not nte changeable
Second Revision	10/25/2002	Effect ve on p ototype t uck	Reduce length	Sho te length fo bette f t	AT-C-2717 A	AT-C-2717 B 0	W thd awn du ng p ototype development	Not nte changeable
Third Revision	11/22/2004	Runn ng change effect ve w th next o de and based upon the consumpt on of ex st ng nvento y	Add plat ng note to d aw ng	Plat ng nfo mat on needed fo vendo	AT-C-2717 B	AT-C-2717 C 0	P ev ous des gn used unt l ev sed pa ts we e eady fo p oduct on.	Newe and olde ve s ons a e nte changeable. Howeve , p ev ous des gn no longe ava lable.
Fourth Revision	8/25/2006	Runn ng change effect ve w th next o de and based upon the consumpt on of ex st ng nvento y	Inc eased length of th eads on stud bolt	Longe th eads to allow fo mo e cable adjustment	AT-C-2717 C.0	AT-C-2717 D 0	P ev ous des gn used unt l ev sed pa ts we e eady fo p oduct on.	Newe and olde ve s ons a e nte changeable. Howeve , p ev ous des gn no longe ava lable.

Sections 3-5 Extend Cable
AT-C-2719

	Release Date	Production Date	Description of Change	Reason for Change	Orig nal Part Number	Rev sed Part Number	Withdrawn from Production	Interchangeable
Initial Release	1/12/2001	In t al development of SP 110 model	In t al elease	n/a	AT-C-2719	AT-C-2719	n/a	n/a
First Revision	9/6/2002	Effect ve on p ototype t uck	Reduce length	Sho te length fo bette f t	AT-C-2719	AT-C-2719 A.0	W thd awn du ng p ototype development	Not nte changeable
Second Revision	10/25/2002	Effect ve on p ototype t uck	Reduce length	Sho te length fo bette f t	AT-C-2719 A	AT-C-2719 B 0	W thd awn du ng p ototype development	Not nte changeable
Third Revision	11/22/2004	Runn ng change effect ve w th next o de and based upon the consumpt on of ex st ng nvento y	Add plat ng note to d aw ng	Plat ng nfo mat on needed fo vendo	AT-C-2719 B	AT-C-2719 C 0	P ev ous des gn used unt l ev sed pa ts we e eady fo p oduct on.	Newe and olde ve s ons a e nte changeable. Howeve , p ev ous des gn no longe ava lable.
Fourth Revision	7/12/2005	Documentat on change only. No effect on pa ts.	Rev sed name, OUTER was LOWER	D aw ng cla f cat on	AT-C-2719 C.0	AT-C-2719 C 1	No effect on pa ts	No effect on pa ts
Fifth Revision	8/25/2006	Runn ng change effect ve w th next o de and based upon the consumpt on of ex st ng nvento y	Inc eased length of th eads on stud bolt	Longe th eads to allow fo mo e cable adjustment	AT-C-2719 C.1	AT-C-2719 D 0	P ev ous des gn used unt l ev sed pa ts we e eady fo p oduct on.	Newe and olde ve s ons a e nte changeable. Howeve , p ev ous des gn no longe ava lable.

Sections 3-5 Retract Cable
AT-C-2720

	Release Date	Production Date	Description of Change	Reason for Change	Orig nal Part Number	Rev sed Part Number	Withdrawn from Production	Interchangeable
Initial Release	1/24/2001	In t al development of SP 110 model	In t al elease	n/a	AT-C-2720	AT-C-2720	n/a	n/a
First Revision	9/6/2002	Effect ve on p ototype t uck	Reduce length	Sho te length fo bette f t	AT-C-2720	AT-C-2720 A.0	W thd awn du ng p ototype development	Not nte changeable
Second Revision	10/25/2002	Effect ve on p ototype t uck	Reduce length	Sho te length fo bette f t	AT-C-2720 A	AT-C-2720 B 0	W thd awn du ng p ototype development	Not nte changeable
Third Revision	11/22/2004	Runn ng change effect ve w th next o de and based upon the consumpt on of ex st ng nvento y	Add plat ng note to d aw ng	Plat ng nfo mat on needed fo vendo	AT-C-2720 B	AT-C-2720 C 0	P ev ous des gn used unt l ev sed pa ts we e eady fo p oduct on.	Newe and olde ve s ons a e nte changeable. Howeve , p ev ous des gn no longe ava lable.
Fourth Revision	7/12/2005	Documentat on change only. No effect on pa ts.	Rev sed name, LOWER was OUTER	D aw ng cla f cat on	AT-C-2720 C.0	AT-C-2720 C 1	No effect on pa ts	No effect on pa ts
Fifth Revision	8/25/2006	Runn ng change effect ve w th next o de and based upon the consumpt on of ex st ng nvento y	Inc eased length of th eads on stud bolt	Longe th eads to allow fo mo e cable adjustment	AT-C-2720 C.1	AT-C-2720 D 0	P ev ous des gn used unt l ev sed pa ts we e eady fo p oduct on.	Newe and olde ve s ons a e nte changeable. Howeve , p ev ous des gn no longe ava lable.

Extend/Retract Cables
AT-L-1000

	Release Date	Production Date	Description of Change	Reason for Change	Original Part Number	Revised Part Number	Withdrawn from Production	Interchangeable
Initial Release	6/4/1993	Initial development of SP 4-section models	Initial release	n/a	AT-L-1000	AT-L-1000	n/a	n/a
First Revision	6/9/1993	Documentation change only. No effect on parts.	Redrawn with part number codes	Clarification for BOM purposes	AT-L-1000	AT-L-1000	No effect on parts	No effect on parts

Note: Cables are ordered in rough lengths with only one end fitting applied. They are custom fit and cut to length during truck assembly. Then the second end fitting is applied.

PE13-017

SUTPHEN

7-25-2013

ENCLOSURE

REQUEST 9

Component Changes Sutphen Towers

6-inch Sheave Assembly
500-00625B

	Release Date	Production Date	Description of Change	Reason for Change	Original Part Number	Revised Part Number	Withdrawn from Production	Interchangeable?
Initial Release	6/16/1992		initial release	n/a	(vendor #) 500-00625B	n/a	when stock was depleted	n/a
First Revision	2/3/2005	2/15/2005	Sheave body change to aluminum	corrosion resistance	(vendor #) 500-00625B	700-00625B		yes
Second Release			Change bearing to Super Oillite	better wear resistance	700-00625B			yes

4-inch Sheave Assembly
500-00412B

	Release Date	Production Date	Description of Change	Reason for Change	Original Part Number	Revised Part Number	Withdrawn from Production	Interchangeable?
Initial Release	1/7/1991		initial release	n/a	(vendor #) 500-00412B	n/a	n/a	n/a
First Revision	4/5/2005	4/52/2005	Sheave body change to aluminum	corrosion resistance	(vendor #) 500-00400B	500-00400B	when stock was depleted	yes

Pin
13B1795

	Release Date	Production Date	Description of Change	Reason for Change	Original Part Number	Revised Part Number	Withdrawn from Production	Interchangeable?
Initial Release	11/16/1978		n/a	Initial Release	1545	13A1545	n/a	n/a
First Revision	5/4/2010	5/4/2010	Add chamfer on square face	improve part clearance	13A1545	13B1795 Rev A.1	no	no

Pin
13B1792

	Release Date	Production Date	Description of Change	Reason for Change	Original Part Number	Revised Part Number	Withdrawn from Production	Interchangeable?
Initial Release	5/5/1978		n/a	Initial Release	1717	13B1792	n/a	n/a
First Revision	5/4/2010	5/4/2010	Add chamfer on square face	improve part clearance	13B1792	13B1795 Rev A.0	no	no

Extend/Retract Cable 1-3
13A1772

	Release Date	Production Date	Description of Change	Reason for Change	Original Part Number	Revised Part Number	Withdrawn from Production	Interchangeable?
Initial Release	4/1/1992		n/a	Initial Release	1772	1772	10/20/1992	n/a
First Revision	10/20/1992		Shorten overall cable length, add length to rod end	Too much slack in cable, extend adjustable range	1772	13A1772	n/a	no

Extend/Retract Cable 2-4
13A1688

	Release Date	Production Date	Description of Change	Reason for Change	Original Part Number	Revised Part Number	Withdrawn from Production	Interchangeable?
Initial Release	8/22/1991		n/a	Initial Release	1688	13A1688	n/a	n/a
First Revision								

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ENCLOSURE

REQUEST 9

Production Data Details

VIN	MDL	MY	DOB	WSD	SST	7-IN SHEAVE ASSY	6-IN SHEAVE ASSY	PIN ASSY	PIN PLATE	EXT CABLES 1-3	RET CABLES 1-3	EXT CABLES 2-4	RET CABLES 2-4	EXT CABLES 3-5	RET CABLES 3-5
1S9A3JLE89	SP 100	2009	10/28/08	10/28/08	TN	AT-C-2173 REV C.1	N/A	AT-C-2174 REV C.0	AT-C-2252 REV A.0	AT-L-1000 REV A.0	AT-L-1000 REV A.0	AT-L-1000 REV A.0	AT-L-1000 REV A.0	AT-L-1000 REV A.0	AT-L-1000 REV A.0
1S9A3JLE39	SP 110	2009	7/9/09	7/9/09	NJ	AT-C-2173 REV C.1	AT-C-2202 REV E.0	AT-C-2174 REV C.0	AT-C-2252 REV A.0	AT-C-2176 REV D.0	AT-C-2176 REV D.0	AT-C-2818 REV E.0	AT-C-2717 REV D.0	AT-C-2719 REV D.0	AT-C-2720 REV D.0
1S9A3JLE79	SP 95HR	2009	9/10/10	9/10/10	PA	AT-C-2173 REV C.1	N/A	AT-C-2174 REV C.0	AT-C-2252 REV A.0	AT-L-1000 REV A.0	AT-L-1000 REV A.0	AT-L-1000 REV A.0	AT-L-1000 REV A.0	AT-L-1000 REV A.0	AT-L-1000 REV A.0
1S9A3JLE69	SP 95HR	2009	11/15/08	11/15/08	TX										
1S9A3KLE79	SP 95HR	2009	8/7/09	8/7/09	NY										
1S9A3KME1	SP 95HR	2009	9/25/09	9/25/09	MO										
1S9A3JLE39	SPH 100	2009	12/11/08	12/11/08	CA	AT-C-2173 REV C.1	AT-C-2202 REV E.0	AT-C-2174 REV C.0	AT-C-2252 REV A.0	AT-C-5969 REV C.0	AT-C-5968 REV C.0	AT-C-5970 REV C.0	AT-C-5970 REV C.0	AT-C-5972 REV C.0	AT-C-5971 REV C.0
1S9A3JLE99	SPH 100	2009	11/15/08	11/15/08	PA										
1S9A3JLEX9	SPH 100	2009	11/29/08	11/29/08	NY										
1S9A3JLE99	SPH 100	2009	1/8/09	1/8/09	MI										
1S9A3KLE79	SPH 100	2009	1/27/09	1/27/09	RI										
1S9A3JLE09	SPH 100	2009	2/15/09	2/15/09	TX										
1S9A3JLE49	SPH 100	2009	3/22/09	3/22/09	PA										
1S9A3KLE29	SPH 100	2009	3/16/09	3/16/09	NC										
1S9A3JLE89	SPH 100	2009	5/5/09	5/5/09	NC										
1S9A3JLE69	SPH 100	2009	4/6/09	4/6/09	OH										
1S9A3JLE59	SPH 100	2009	4/20/09	4/20/09	OH										
1S9A3JLE79	SPH 100	2009	4/29/09	4/29/09	PA										
1S9A3JLE99	SPH 100	2009	5/22/09	5/22/09	OH										
1S9A3JLE39	SPH 100	2009	6/9/09	6/9/09	NY										
1S9A3JLE99	SPH 100	2009	6/11/11	6/11/11	IN										
1S9A3JLE79	SPH 100	2009	12/16/09	12/16/09	CT										
1S9A3JLE49	SPH 100	2009	6/17/09	6/17/09	CT										
1S9A3JLE89	SPH 100	2009	7/17/09	7/17/09	AZ										
1S9A3JLE39	SPH 100	2009	5/4/09	5/4/09	NJ										
1S9A3JLEX9	SPH 100	2009	8/21/09	8/21/09	CT										
1S9A3JLE29	SPH 100	2009	12/21/09	12/21/09	MO										
1S9A3HLE59	SPH 100	2009	10/8/09	10/8/09	NY										
1S9A3JLEX9	SPH 100	2009	10/21/09	10/21/09	NY										
1S9A3JME4	SPH 100	2009	11/10/09	11/10/09	OH										
1S9A3JLE89	SPH 100	2009	12/31/09	12/31/09	GA										
1S9A3JLEX9	SPH 100	2009	12/31/09	12/31/09	GA										
1S9A3JLE49	SPH 100	2009	11/24/09	11/24/09	OH										
1S9A3JLE79	SPI 112	2009	9/4/09	9/4/09	KY	AT-C-2173 REV C.1	AT-C-2202 REV E.0	AT-C-2174 REV C.0	AT-C-2252 REV A.0	AT-C-2176 REV D.0	AT-C-2176 REV D.0	AT-C-2818 REV E.0	AT-C-2717 REV D.0	AT-C-2719 REV D.0	AT-C-2720 REV D.0

VIN	MDL	MY	DOB	WSD	SST	6-IN SHEAVE ASSY	4-IN SHEAVE ASSY	PIN	PIN	EXT/RET CABLES 1-3	EXT/RET CABLES 2-4
1S9A7LLEX9 [redacted]	SP 70	2009	12/8/13	12/8/13	GA	500-00625B (DAX003871)	500-00412B (14B5404)(DAX003870)	13B1795 (DAX007123)	13B1792 (DAX007122)	13A1772	13A1688
1S9A7LLE19	SP 70	2009	4/9/13	4/9/13	OH						
1S9A7LLD29	SP 70	2009	2/9/13	2/9/13	NC						
1S9A7LLE39	SP 70	2009	5/9/13	5/9/13	WV						
1S9A7LLE49	SP 70	2009	6/9/13	6/9/13	FL						
1S9A7LLE39	SP 70	2009	6/9/13	6/9/13	FL						
1S9A3LLE19	SP 70	2009	7/9/13	7/9/13	NJ						
1S9A7LLE79	SP 70	2009	8/9/13	8/9/13	OK						
1S9A3LLE69	SP 70	2009	5/10/13	5/10/13	KS						