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ACCURIDE[®]
CORPORATION

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APPENDIX # 1 @ 09/16/11

February 23, 2011

Associate Administrator for Enforcement
National Highway Traffic Safety Administration
1200 New Jersey Avenue, S.E.
Washington, DC 20590

Subject: **Part 573 Defect and Noncompliance Report: Gunite Automatic Slack Adjuster manufactured on October 15, 2010 through January 31, 2011**

Dear Sir or Madam:

On behalf of Accuride Corporation ("Accuride"), the following information is submitted pursuant to 49 C.F.R. §573.6, relating to a determination that a defect relating to motor vehicle safety that may exist in certain slack adjusters manufactured by Gunite Corporation from October 15, 2010 to January 31, 2011.

Sincerely,

William D. Noll
Vice President, Corporate Quality
Phone: 812-962-5024
Fax: 812-962-5429
E-mail: bnoll@accuridecorp.com

cc: Steve Martin, Senior Vice President and General Counsel – Accuride Corporation

PART 573 Defect and Noncompliance Report

On February 16, 2011, Gunite Corporation decided that a defect which relates to motor vehicle safety exists in items of motor vehicle equipment listed below, and is furnishing notification to the National Highway Traffic Safety Administration in accordance with 49 CFR Part 573 Defect and Noncompliance Reports.

Date this report was prepared: February 22, 2011

Furnish the manufacturer's identification code for this recall (if applicable):

1. Identify the full corporate name of the fabricating manufacturer/brand name/trademark owner of the recalled item of equipment. If the recalled item of equipment is imported, provide the name and mailing address of the designated agent as prescribed by 49 U.S.C. §30164.

Gunite Corporation
302 Peoples Avenue
Rockford, IL 61104

Identify the corporate official, by name and title, whom the agency should contact with respect to this recall.

William Noll
Vice President, Corporate Quality
Tel: (812) 962-5024
Fax: (812) 962-5429

Name and Title of Person who prepared this report.

William Noll
Vice President, Corporate Quality
Tel: (812) 962-5024
Fax: (812) 962-5429

Signed:

I. Identify the Recalled Items of Equipment

2. Identify the Items of Equipment Involved in this Recall, *for each make and model or applicable item of equipment product line (provide illustrations or photographs as necessary to describe the item of equipment), provide:*

Generic name of the item: Automatic Slack Adjuster

Function: Automatic slack adjusters react to, and adjust for, variations in brake shoe-to-drum clearance and maintain the proper amount of space between the shoe and drum, ensuring that this clearance is always constant at the time of braking.

For more information and identifying pictures, please see the Gunitite – Service Advisory attached hereto as [Exhibit A](#).

Part Numbers: See list of affected part numbers below.

Slack Adjuster assemblies using housing SC01101			
900AS1135	900AS1038	900AS1054	900SA10303
900SA07901	900AS1162	900AS1061	900SA09203
900SA10001	900AS1246	900SA10202	900SA10203
900SA11001	900AS1146	900AS1047	900SA09303
900SA07801	900AS1132	900SA08502	900AS1147
900AS1032	900SA09902	900SA08912	900SA09213
900AS1048	900AS1156	900SA09202	900AS1247
900SA09901	900SA08602	900SA09212	900AS1060
900AS1131	900SA09502	900SA11902	900SA08403
900SA08001	900SA09102	900AS1172	900AS1169
900SA10101	900SA10602	900AS1181	900AS1179
900AS1037	900SA11202	900SA11902	900SA08603
900AS1137	900AS1168	900SA10212	900SA13003
900SA10401	900SA11602	900SA13401	900SA10613
900SA08301	900SA11602	900SA11302	900SA08103
900AS1039	900SA09702	900SA08202	900AS1041
900SA10201	900SA10102	900AS1043	900AS1241
900SA11101	900SA10402	900SA09002	900AS1062
900SA10801	900SA08802	900SA09302	900AS1055
900SA08101	900AS1154	900AS1159	900SA08913
900AS1039	900AS1155	900AS1143	900AS1141
900AS1053	900AS1138	900AS1243	900AS1150
900SA10501	900AS1052	900SA10902	900SA10803
900SA08401	900AS1049	900SA10302	900AS1250
900SA10301	900AS1046	900AS1170	900SA11903
900SA10901	900SA11502	900AS1163	900AS1173
900AS1152	900AS1171	900SA09103	900AS1176
900AS1153	900SA11802	900AS1050	900AS1182
900AS1051	900SA08302	900SA13402	900SA08903
900AS1136	900SA08402	900AS1233	900AS1166
900SA10002	900SA10502	900SA09903	900SA10213
900SA07902	900SA09802	900SA11203	900SA10813
900AS1036	900SA10202	900AS1133	900SA12703
900SA09602	900SA10802	900SA07803	900SA08203
900SA08702	900SA08102	900SA11603	900AS1044
900SA11402	900AS1040	900SA10603	900AS1056
900SA09402	900AS1059	900AS1033	900AS1160
900SA10702	900SA08902	900SA11003	900AS1244
900SA11702	900AS1249	900SA09503	900AS1144
900SA11002	900SA10802	900SA10803	900SA10903
900SA09902	900AS1149	900SA11903	900SA11303
900SA07802	900AS1165	900SA10503	900SA09003
900AS1032	900AS1157	900SA11103	900AS1140

Other information which characterizes/distinguishes the items of equipment to be recalled:

The cast iron housing of the slack adjuster is the subject of this recall. This same basic housing is used in several variations of Gunit's slack adjusters, each with different part numbers. The specific products that are subject of the campaign have a unique combination of identification numbers cast into the slack adjuster housing. Each housing has the word "Gunit" and either "H" or "1H" cast into the side of the housing, this is the mold line identifier. Further, each housing has a lot number cast into the bottom of the housing. The specific products that are subject of the campaign contain one of the combinations of mold line identifier and lot number specified in the following table:

Lot Numbers and Corresponding Mold Line Nomenclature

<u>Lot Nos.</u>	<u>Mold Line</u>	<u>Lot Nos.</u>	<u>Mold Line</u>	<u>Lot Nos.</u>	<u>Mold Line</u>	<u>Lot Nos.</u>	<u>Mold Line</u>
0I06	1H	0K02	1H	1A15	1H	0K26	H
0I07	1H	0K04	1H	1A21	1H		
0I14	1H	0K10	1H	1A22	1H		
0I15	1H	0K12	1H				
0I17	1H	0K18	1H				
0I18	1H	0K22	1H				
0I19	1H	0K24	1H				
0I20	1H	0L12	1H				
0I26	1H	0L18	1H				
0J06	1H	0L22	1H				
0J07	1H	0L24	1H				
		0L28	1H				
		0L30	1H				

Identify the approximate percentage of the production of all the recalled models manufactured by your company between the inclusive dates of manufacture provided above, that the recalled model population represents.

Approximately 31.5% of Gunit slack adjusters manufactured between October 15, 2010 and January 31, 2011 are expected to have housings containing one of the combinations of lot numbers and mold line identifications that are subject of this campaign.

II. Identifying the Recall Population

3. Furnish the total number of items of equipment recalled potentially containing the defect or noncompliance.

Total Number in Suspect Lots	51,594
Total Number in Suspect Lots already inspected	14,120
Total Number in Suspect Lots Potentially in Field	37,474
Total Number in Suspect Lots Potentially Affected by Campaign	37,474

4. Furnish the approximate percentage of the total number of items of equipment estimated to actually contain the defect or noncompliance:

87,420 housings have been inspected with ultrasonic or x-ray testing. Of the 87,420 inspected housings, 14,120 have the suspect lot code numbers. Of the housings with the suspect lot numbers 5 have been found to contain this condition, some to a minor degree. This represents 0.053%.

Identify and describe how the recall population was determined—in particular how the recalled models were selected and the basis for the beginning and final dates of manufacture of the recalled items of equipment:

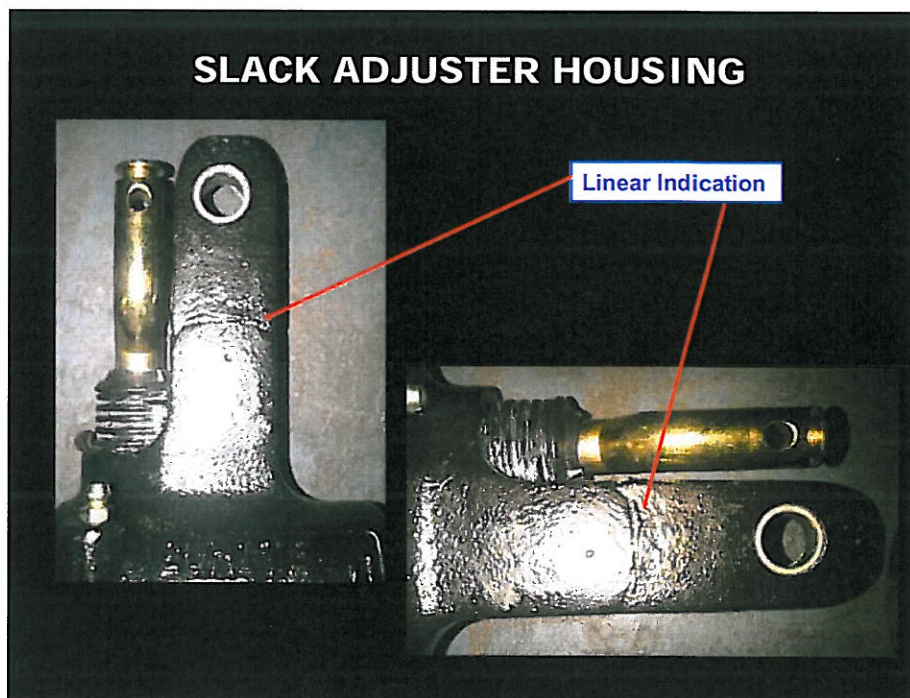
The slack adjusters affected by the campaign were assembled using component housings that are suspected to be nonconforming. The lot codes containing housings that may be nonconforming consist of 2 separate groups. The first group is comprised of all parts made by a supplier that operated under a subcontract from Gunite’s approved supplier, which subcontract was made without Gunite’s knowledge or consent. The second group is comprised of a single lot of housings manufactured by Gunite’s approved supplier that were cast from iron that was not at a desirable temperature at the time it was poured into casting molds. Gunite has determined that all parts containing component housings from the unapproved supplier should be retrieved from the field as well as parts containing component housings from the approved supplier that were found to have been made from a suboptimal temperature of iron at the time of casting. Gunite will inspect the returned housings to confirm whether or not they are nonconforming.

The lot code of potentially nonconforming housings from the unapproved source were produced between September 6, 2010 and January 22, 2011 and assembled in Gunite’s Slack Adjusters produced between October 15, 2010 and January 30, 2011. The lot code of potentially nonconforming housings produced at the approved source with the suboptimal temperature were produced on November 26, 2010 and assembled in Gunite’s Slack Adjusters produced between December 24, 2010 and January 4, 2011. After January 30, 2011 all parts were certified with ultrasonic or x-ray tested before shipment. Therefore, all Slack Adjusters produced between October 15, 2010 and January 30, 2011 are subject to visual inspection of markings on the housing and, if they contain one of the listed combinations of mold line and lot code, are to be returned to Gunite.

III. Describe the Defect or Noncompliance

5. Describe the defect or noncompliance. The description should address the nature and physical location of the defect or noncompliance. Illustrations should be provided as appropriate.

The nonconformance occurred in the “handle” portion of the slack adjuster housing during the casting operation. The dimensional characteristics of the area in question were not affected and contain adequate structural integrity, however, in certain cases the casting process resulted in a flow notch in the “handle” portion that reduced the effective cross section structural (“knitted”) area. This condition occurred at a high load or stressed area of the housing. See following pictures.



Describe the cause(s) of the defect or noncompliance condition.

The nonconformance is caused due to incomplete “knitting” of the iron at the time of casting, which is commonly referred to as a “misrun” by the foundry industry. While the dimensional characteristics of the area in question are within specification, in certain cases the casting process resulted in a “flow notch” in the “handle” portion. Causes of the nonconformance could be an interruption in the pour of the mold, low iron temperature, slow pouring practice or temporary blockage in the gating system.

Describe the consequence(s) of the defect or noncompliance condition.

In some instances, the nonconformance can cause inadequate structural integrity of the slack adjuster housing, which could cause the housing to break at the handle under normal operating loads. To date, all such failures of which Gunitite is aware have occurred upon initial application of brake pressure in the vehicle assembly plant after installation during final validation testing of the vehicle at the Original Equipment Manufacturer's facilities. There have been no field failures attributable to a broken slack adjuster housing reported. If the slack adjuster housing were to break, the wheel brake to which the slack adjuster is attached would no longer function, causing the vehicle to have reduced braking capacity and if mounted on the steer axle a possible pull to one side and the vehicle could be involved in an accident resulting in property damage, personal injury or death.

Identify any warning which can (a) precede or (b) occur.

If a slack adjuster were to fail on the steer axle, a driver may notice a pull to one side upon application of the brakes. If the slack adjuster were to fail on a non-steer axle, a driver may notice degraded braking performance resulting in a longer stopping distance.

Pursuant to Gunitite's Slack Adjuster Maintenance & Trouble-Shooting guide, Gunitite recommends that truck operators perform preventative maintenance every three months or 25,000 miles, including checking for structural damage of the housing, work clevis, worn clevis bushing, and condition of the boot for cuts or tears. Any of these parts with these conditions should be replaced if necessary. Gunitite believes that performing simple routine visual inspections will reveal broken slack adjuster housings on all axle locations.

Also roadside inspections performed by DOT using the standard Commercial Vehicle Safety Alliance criteria should also detect this condition.

If the defect or noncompliance is in a component or assembly purchased from a supplier, identify the supplier by corporate name and address.

Manufacturer:
HanHwang Ind. Co., Ltd
#362-4 Namyang-dong, Jinhae-gu
Changwon City, Gyongsangnam-do, Korea
T) +82-55-548-0775

Broker:
K Technology Industries, Inc
7490 Opportunity Rd., Ste201
San Diego, CA 92111
T) 858-571-7886

Non-Approved Manufacture:
Hwan In Metal Ind. Co. Ltd.
#365-7 Namyang-dong, Jinhae-city
Gyongsangnam-do, Korea

Identify the name and title of the chief executive officer or knowledgeable representative of the supplier:

Manufacturer:
Jun Huem Park (CEO)

Broker:
Ron Han-Su Kim (Owner)

IV. Provide the Chronology in Determining the Defect/Noncompliance

6. With respect to a defect, furnish a chronological summary (including dates) of all the principle events that were the basis for the determination of the defect. The summary should include, but not be limited to, the number of reports, accidents, injuries, fatalities, and warranty claims.

- On January 12, 2011, Gunitite was notified by Volvo Truck Company that a slack adjuster broke during final validation testing at the end of the assembly line at the Mack Macungie facility.
 - It was determined that this slack adjuster was assembled at Gunitite's Elkhart, Indiana facility on November 3, 2010.
 - It was determined that this slack adjuster housing was manufactured by an unapproved Tier III foundry on September 19, 2010 (Lot No. 0I19, 1H).
- On January 28, 2011 Gunitite was notified by Paccar, St. Therese, Canada that a slack adjuster broke during final validation testing at the end of the assembly line.
 - It was determined that this slack adjuster was assembled at Gunitite's Rockford, Illinois facility on January 12, 2011.
 - It was determined that this slack adjuster housing was manufactured by an unapproved Tier III foundry on November 24, 2010 (Lot No. 0K24, 1H).
- On Friday, January 28, 2011, Gunitite Corporation began inspecting and certifying all of its finished goods and work in process inventory by either ultrasonic or x-ray inspection.
- During ultrasonic testing within the Gunitite Rockford facility a slack adjuster was found to have a "flow notch" nonconformance in the housing.
 - It was determined that this housing was manufactured by Gunitite's approved foundry on November 26, 2010 (Lot No. 0K26, H).
- During x-ray inspection at third party inspector, a slack adjuster was found to have a "flow notch" indication in the housing.
 - It was determined that this housing was manufactured by an unapproved Tier III foundry on November 24, 2010 (Lot No. 0K24, 1H).
- On January 31, 2011, Gunitite staff visited the manufacturer of suspect housings.
 - It was determined that although processes were within control limits, there was a slightly lower temperature recorded during 15 molds, representing

- 120 parts on the same day the that lot number 0K26, H was produced. It was noted that lower temperature can contribute to a 'misrun' condition.
- On this same day it was also discovered that other products in question, from Lot Numbers 0I19-1H, 0K24-1H, and 0K26-1H, were manufactured at an unqualified and unapproved source. The process at the unapproved and unqualified source was examined and found to have inadequate control procedures.
 - All lot information from the unapproved and unqualified source was collected and deemed suspect.
 - The unapproved and unqualified source was ordered to and agreed to cease production.
 - Gunite staff remained through February 7, 2011, to further review inspection procedures, processes, and research failure modes leading to enhancement
- On January 30, 2011 two fuse tests were conducted on the two slack adjusters (0K24, 1H & 0K26, 1H) that were found during ultra-sonic and x-ray testing on January 28, 2011.
 - A fuse test is a single application force applied to the slack adjuster equal the force exhibited on a slack adjuster during a normal brake application (3,000 lbs). Both of the slack adjusters passed this test.
 - The fuse test was repeated again on the 0K26 slack adjuster until on the slack adjuster housing failed. It took a force of 5,800 lbs to break the housing. This force is 150% of the calculated normal brake application.
 - A cross-functional 8-D team was formed on February 7, 2011 to determine root cause and corrective actions.
 - On February 16, 2011, an Engineering analysis was finalized and Gunite officially determined that suspect housings should be returned from the field.
 - On February 17, 2011, Gunite Corporation was notified by the Daimler Trucks North America, Santiago, Mexico facility that a slack adjuster broke during final validation testing at the end of the assembly line.
 - It was determined that this slack adjuster housing was manufactured by an unapproved Tier III foundry on November 12, 2010 (Lot No. 0K12, 1H).
 - As outlined above, there have been a total of three instances of a broken slack adjuster housing, all three occurred at OEM facilities upon initial brake testing on newly manufactured vehicles that had not yet left the OEM plant.
 - To date, Gunite has not received notice of any broken slack adjuster housing in the field (i.e., no warranty claims, no accident notices, no injury notices, no fatality notices).

7. With respect to a noncompliance, identify and provide the test results or other data (in chronological order and including dates) on which the noncompliance was determined.

N/A

V. Identify the Remedy

8. Furnish a description of the manufacturer's remedy for the defect or noncompliance. Clearly describe the differences between the recall condition and the remedy.

The remedy is to request customers to inspect Gunite slack adjusters manufactured between October 15, 2010 and January 30, 2011, and return slack adjusters with housings containing any one of the combinations of lot numbers and mold line identifications noted above, unless such slack adjuster has a green painted dot on the housing, which indicates that the housing has already been inspected by Gunite and does not contain the potential nonconformance. Gunite will provide a free replacement of the slack adjusters with the matching housing codes that are returned to Gunite.

Gunite has additionally taken the steps noted below to ensure that the potential nonconformance does not occur in the future.

Clearly describe the distinguishing characteristics of the remedy component/assembly versus the recalled component/assembly.

As of February 1, 2011, all slack adjusters shipped from Gunite have received ultrasonic or x-ray testing to confirm proper housing casting. Therefore, suspect Slack Adjusters can be distinguished by a unique date code. The inspected parts may also be identified by a green dot painted on the housing and on the box containing the housing or by the letter "C" etched on the edge cap of the housing.

Identify and describe how and when the recall condition was corrected in production. If the production remedy was identical to the recall remedy in the field, so state. If the product was discontinued, so state.

Gunite has ceased purchase of slack adjuster housings from the non-approved source. Gunite has received assurance from the approved supplier that (a) all slack adjuster castings will be produced in its approved foundry using the revised and approved process, (b) all slack adjuster housings will be manufactured using iron at the proper casting temperature between 1390° and 1430°C, (c) the pouring time will be continuous and within the phase time and (d) it will no longer outsource slack adjuster housing production to third parties without Gunite's prior written consent and approval. Further, Gunite has implemented 100% ultrasonic inspection of slack adjuster housings to confirm proper casting beginning February 1, 2011.

VI. Identify the Recall Schedule

Furnish a schedule or agenda (with specific dates) for notification to other manufacturers, dealers/retailers, and purchasers. Please, identify any foreseeable problems with implementing the recall.

There have been verbal communications with major customers who had discovered broken parts in their manufacturing facilities to gather data and contain suspect vehicles and parts. The official notification of the campaign to each of the major customer who received slack adjusters from the suspect lots will be notified by letter beginning on February 24, 2011. Other customers who may potentially have slack adjusters from the suspect lots will be notified by letter beginning on February 23, 2011 and be complete by February 28, 2011. There are no foreseeable problems with implementing the product campaign.

VII. Furnish Recall Communications

9. Furnish a final copy of all notices, bulletins, and other communications that relate directly to the defect or noncompliance and which are sent to more than one manufacturer, distributor, or purchaser. This includes all communications (including both original and follow-up) concerning this recall from the time your company determines the defect or noncompliance condition on, not just the initial notification. *A DRAFT copy of the notification documents should be submitted to this office by Fax (202-366-7882) or by E-Mail (RMD.ODI@4ot.gov) for review prior to mailing.*

Note: These documents are to be submitted separately from those provided in accordance with Part 579.5 requirements.