



Safety Notice: H4 Connector Bolt Inspection Required (P/N H10004-2)

Safety Notice (SN):

Used to notify the customer of recent or potential field incidents. They may involve safety or environmental concerns, operational changes and maintenance revisions that require attention.

Safety Notice (SN): REV. A

This Safety Notice is being expanded to include all H4 Connector bolts (P/N H10004-2) from 2009 to present. The total range of impacted bolts is June 2007 to present. Our website will be updated with new bolt markings.

Scope

This safety notice addresses all H4 Connector bolts (P/N H10004-2) produced from June 2007 to October 2009 in the H4 product family, including E, DxE, ExF, HD, and DWHD. The SHD Connector is not affected by this Safety Notice. The assembly part numbers for the affected connectors are listed in the appendix of this notice.

Problem

GE was recently made aware of an incident in the Gulf of Mexico in which the upper and lower bodies of a H4 Connector contained in the Lower Marine Riser Package (LMRP) separated; no other similar incident has been reported. Upon investigation, it has been determined that stress corrosion cracking caused by hydrogen embrittlement was a contributor to that incident.

A Root Cause Analysis (RCA) is currently underway. To ensure the fleet is aware of this issue prior to the completion of the RCA, GE is issuing this Safety Notice and recommended actions to minimize the potential of any future occurrence.

GE has also recently been made aware of two additional data points found during surface inspections of the identified bolts. Both of these instances are being investigated.

Background

GE has received information on three H4 Connectors with bolts that were produced from June 2007 to October 2009. GE is investigating the production history of these H4 Connector bolts. Preliminary investigation indicates bolts produced during this time are more susceptible to hydrogen embrittlement.

Recommendations

GE requires the inspection of the referenced bolts. A formal inspection procedure will be issued shortly and will include steps summarized in the flow chart on the following page.

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Inspection and Data Collection (all bolts)

- Remove coating/paint from bolt heads.
- Use bolt data collection template to record data for each bolt, including location, serial number, and batch.
- If bolts have markings that match any bolt listed on website (see link for bolts affected), please remove these bolts for disposition.
- If bolts have markings not found at website, perform a precautionary 'torque test' to ensure the integrity of all installed bolts (see procedure in appendix).
- If bolts do not have any markings, please remove these bolts for disposition.
- If bolt does not pass the 'torque test', remove the bolt for disposition.

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Disposition and Containment (identified bolts)

- Using a properly calibrated torque tool, mark the bolt's location on the head of the bolt and remove the bolt.
- Record the break-out torque required for each identified bolt, as well as the general appearance of each bolt on the supplied data collection template (see appendix).
- GE will supply new bolts as appropriate.

Corrective and Preventative Actions

- GE will update the fleet with pertinent developments.

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Please use the GE Customer Bolt Information Template on the website to provide GE with information on ALL of your current bolts. Please return the data collection template to drilling.support@ge.com. As appropriate, return the identified bolts to the GE address (see Contact section) at your earliest opportunity.

Parts Affected

Part number: H10004-2, including bolt kit numbers H125004-5, H125004-6, H125004-7

H4 assembly part numbers: see appendix

Link to identified H4 bolts (P/N H10004-2): <http://www.ge-energy.com/connector-update.jsp>

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Contacts

For technical questions please contact:

H4 Connector Bolt Team

Phone: +1 281-985-3428

E-mail: Drilling.Support@ge.com

Bolt Support Link: <http://www.ge-energy.com/connector-update.jsp>

To view all Bulletins and Notifications as well as other relevant information, log-in from our home page and go to our new website link at: www.geoilandgas.com/drilling

In the left column, click on the "Customer Login" link. Fill in your company e-mail address in the "User Name" box and your GE-issued password. This online tool is available only to registered GE customers.



Appendix

Appendix includes the following documents:

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- Table of H4 assembly part numbers which contain P/N H10004-2
- 'Torque test' procedure

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H4 Assembly Part Numbers

120845	A20631-5	H117718	H129564-H935	H159473-1H809	H185232-1H935	H254307-1H803	L10817-1
120930	A20631-7	H118095-H935	H132810	H159473-1H935	H187215-1H573	H256841-1H566	L10820-1H931
121462V	A20631-99	H118115	H132810-H935	H159473-2H809	H187215-1H574	H257747-1H554	L10827-1
121517V	A20688-1	H11890-1	H133342	H159473-2H931	H187215-1H583	H257747-1H558	L10830-1H802
121599V	A20689-1	H11890-1H931	H133342-1H566	H159642-1	H187215-1H587	H257747-1H935	L10837-1
121677	A20689-3	H11890-2H931	H133342-H566	H159642-1H803	H187215-1H593	H262679-1H566	L10839-1H931
121737V	A20694-1	H11892-1	H133342-H803	H159642-1H809	H187215-1H935	H262811-1	L10860-1
121762-1	A20694-10	H11892-1H935	H133342-H804	H159642-1H931	H187215-3H554	H263079-1H566	L10866-1
121762-2	A20732-1	H11892-2H935	H133342-H931	H159642-1H935	H187215-3H558	H265352-1H566	L10870-1H935
185429-6	A20739-2	H11892-3H885	H133342-H935	H160235-1H931	H187215-3H593	H269665-1H566	L10871-1
A103805-1	A20810-1	H11911-1	H133519-1	H160241-1H931	H189586-1	H278419-1H935	L10878-1H935
A110654-1	A20816-1	H11942-1	H133586-1	H163313-1	H190931	H278640-1H935	L10879-1
A110973-1	A20836-1	H119582-1H566	H133586-1H570	H163313-1H931	H193404-1	H278640-2H935	L10896-1
A116255-1	A20844-1	H119582-1H582	H133586-H558	H163355-1H935	H193628	H278640-3	MOD-H4-DW-HD
A121188-1	A20855-1	H119582-1H885	H133586-H566	H164083-1	H193736-1H804	H278640-3H935	MOD-H4-DXE
A122610-1	A20855-1H566	H11979-1	H133586-H582	H164083-1H931	H194961-1H814	H290755-1H935	MOD-H4-E
A122753-1	A20857-1	H12045-1	H133586-H810	H164086-1H931	H198263-1H803	H298900-1H935	MOD-H4-EXF
A122772-1	A20859-1	H12045-1H931	H133586-H897	H164342-1	H201504-1	H299042-1	MOD-H4-F
A131619-1	A20861-1	H12045-2H935	H133586-H931	H164342-2	H201879-1H598	H299042-1H931	N10213-1
A133216-1	A20870-1	H121242	H133586-H935	H164342-2H599	H201879-1H935	H299480-1H935	N10213-2
A133216-1H935	A20874-1	H122160	H135788	H164799-1H931	H203735-1H589	L10371-1	N10213-3
A133967-1	A20882-1	H123627-H931	H135788-1H803	H164987-1H564	H203735-1H598	L10391-1L935	N10298-1
A133967-1H808	A20882-10H804	H123834-22	H135788-1H935	H164987-1H566	H204294-1H583	L10426-1	N112402-1
A133967-1H931	A20882-1REP	H12442-1H935	H135788-2H802	H164987-1H570	H207121-1	L10432-1	N113655-1
A135884-1H566	A20896-1	H12458-1	H135788-H566	H164987-1H575	H207289-1	L10433-1	N117659-1
A135884-1H596	A20904-1	H12458-1H570	H135788-H577	H164987-1H582	H208861-1	L10434-1	N117870-1
A135884-1H931	A20925-1	H12458-1H931	H135788-H803	H164987-1H583	H209319-1H809	L10437-3	N50603-1
A135884-1H935	A20931-1	H12458-2	H135788-H931	H164987-1H588	H211967-1H935	L10439-1	PBH193951-1
A135884-4H566	A20938-1	H12458-2H582	H135788-H935	H164987-1H801	H212616-1H570	L10444-1	PBH195963-1
A136558-1H935	A20943-1	H12458-2H931	H140362-21	H164987-1H803	H212616-1H931	L10449-1L935	PBH200059-10
A136561-1H807	A50985-2	H12458-2H935	H140362-H897	H164987-1H809	H213199-1H935	L10451-2L935	PBH202142-10
A136561-1H935	A940444-2	H12458-3	H143206-1	H164987-1H810	H215740-1H575	L10476-1	PBH203627-10
A136764-1H804	B128251-1	H12458-3H935	H143206-1H935	H164987-1H931	H215740-1H809	L10483-1	PBH203728-10
A136764-1H935	B128252-1	H12458-4H935	H143206-2H566	H164987-1H935	H215740-1H935	L10484-1L935	PBH204763-10
A136764-2H935	B128270-1	H12458-5H897	H143206-2H935	H164987-2H564	H215780-1H809	L10487-1	R10445-1
A136764-3H935	B128288-1	H12465-1H931	H143206-3H554	H164987-2H801	H215780-2H566	L10503-1	R10724-1
A136764-4H935	B128312-1	H12465-2H931	H143206-3H579	H164987-2H809	H215851-1H931	L10509-1	R10938-1
A162365-1H803	B128405-1	H125004-5	H143206-3H587	H164987-2H810	H215875-1H931	L10514-1	R11052-1
A162365-1H931	B128425-1	H125004-6	H143206-3H897	H164987-2H817	H217072-1H578	L10517-1	R11225-1
A162365-1MOH803	B128425-1	H125004-7	H150884-1H566	H164987-2H897	H217072-1H931	L10518-1	R11226-1
A162365-2H931	B128436-1	H125004-BASE	H150884-1H582	H164987-3H809	H217688-1H931	L10540-1	R11379-1
A171719-1H566	B128442-1	H12610-1	H150884-1H935	H164987-3H810	H218868-1	L10543-1	R11380-1
A171719-1H804	B205042-1	H12628-1	H150884-2H576	H164987-4H931	H219408-1H594	L10554-1	R11385-1
A171719-2H566	B378424-413	H12628-1H935	H152200-1	H164987-4H935	H219412-1H594	L10566-1	R11488-1
A171719-3H566	B378424-414	H12628-23	H152206-1	H164988-10H931	H221385-1	L10587-1	R11490-1
A171719-4H566	B378424-415	H12628-2H935	H152206-1H810	H164988-1H931	H221493-1H935	L10590-1	R11491-1
A171719-5H566	H10000-1	H12628-3H935	H152206-1H935	H165584-1H592	H221493-2H566	L10591-1	R11517-1
A171719-6H566	H10000-10H935	H12679-13	H153288-H935	H165584-1H935	H221493-2H935	L10593-1	R11528-1
A188947-1H566	H10000-1H582	H12679-26	H153290-1H570	H166518-1	H224426-1H935	L10613-1	R11528-5
A20165-1	H10000-1H935	H12679-7H935	H153290-1H581	H168594-1	H226698-1H802	L10636-1	R11543-1
A20236-1	H10000-2	H12679-8H931	H153290-1H594	H169471-1H558	H227336-1H583	L10639-1	R11549-1
A20249-1	H10004-26	H12679-9	H153290-1H803	H169471-1H566	H228570-1H576	L10640-1	R11659-1
A20252-1	H10006	H12680-2	H153290-1H809	H169471-1H581	H228827-1H802	L10648-1	R11666-1
A20252-2	H10086-1	H12680-3H935	H153290-1H810	H169471-1H813	H229605	L10668-1	R11675-1
A20318-1	H10086-1H935	H12680-4	H153290-1H935	H169471-1H935	H231885-1H571	L10669-1	R11675-3
A20388-1	H10086-2	H12680-5	H153291-1H581	H169471-2H935	H236926-1	L10672-1	R11729-1
A20428-1	H10111	H12680-5H566	H156140-1	H170446-1	H240845-1H803	L10679-1	R11820-1
A20473-1	H10112	H12680-6	H156140-1H931	H173026-1H935	H241805-1H802	L10693-1	R11838-1
A20474-1	H101630-1	H12701-1H935	H157015-1	H175799-1H931	H242008-1H931	L10695-1	R11841-1
A20481-1	H10195-1	H12707-1H566	H157015-2	H176175-1H897	H242885-1	L10698-1	R11943-1
A20502-1	H106681	H12707-1H935	H157015-3H935	H176810-1H593	H242948	L10700-1	R11943-1H570
A20508-1	H10753-2	H12707-2H566	H157351-1	H176810-1H935	H243085-1H571	L10738-1	R11943-2H931
A20527-1	H10866-1	H12755-1H935	H157351-1H931	H178235-1H809	H243496-1H596	L10744-1	R11976-1
A20527-1REP	H112266-2	H12827-1	H157415-1	H178890-1H935	H244149-1H931	L10752-1	R11976-1H931
A20612-1	H112936-1-950	H128578-H935	H157415-1H596	H181198-1H809	H251012-1H810	L10756-1	R12011-1
A20614-1	H112936-1-954	H129564-1H935	H157415-1H931	H181742-1	H251137-1H804	L10771-1H935	R12034-1
A20630-1	H11343-1	H129564-H803	H157545-1	H184062-1H935	H252093-1H566	L10778-1	U100069-1
A20631-1	H11343-2	H129564-H809	H157415-1H931	H185232-1H566	H253429-1	L10812-1H885	U100217-1
A20631-1H935	H117480-1H935	H129564-H931	H157731	H185232-1H804	H254307-1H566	L10813-1	U100503-1

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'Torque Test' Procedure

1. Document the location of each bolt relative to its position on the connector.
2. Mark the position of the bolt head relative to the upper body.
3. Record traceability data of each bolt.
4. Apply torque to 2,000 ft-lbs \pm 100 ft-lbs. If rotation occurs, remove and replace bolt.
5. If no rotational movement occurs in step 4, re-torque per OEM manual (4,800 ft-lbs \pm 100 ft-lbs).